

Century Center 2200 Bldg

A88-120.18

12/19/88

TRANSFER REQUESTED BY

OF LAND ASSOCIATES

Date 2/12/89

Transferred to Materials Analytical Services

[illegible]

Century Center 2600 Bldg

A28-20.18

12/19/88

TRANSFER REQUESTED BY Simon C. Southwick

OF LAUD ASSOCIATES

Date	01	12	89
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Transferred to Materials Analytical Services

[illegible]

Table 1
DUST SAMPLES
 2200 BUILDING
 CENTURY CENTER IV
 LAI PROJECT NUMBER 1188-2120.18

<u>SAMPLE NUMBER</u>	<u>LOCATION/DESCRIPTION</u>	<u>SAMPLE AREA</u>
✓ 1	Carpet Sample, Suite 90, File Storage Room Floor	12" X 12"
✓ 2	Dust Sample, Suite 90, File Storage Room Shelves	12" X 12"
✓ 3	Carpet Sample, Suite, 660 Paper Storage Room	12" X 12"
✓ 4	Dust Sample, Suite 650, Top of Kitchenette Cabinets	12" X 12"
✓ 5	Carpet Sample, 5th Floor Lobby Entrance to Men's Bathroom	6" X 24"
✓ 6	Dust Sample Suite 532, Top of Brown Phone Switching Box	5" X 24"
✓ 7	Dust Sample, 4th Floor Air Handler, Horizontal Surface above Intake Filters	4" X 24"
✓ 8	Dust Sample, 3rd Floor Air Handler, Horizontal Surface above Intake Filters	4" X 24"
✓ 9	Dust Sample, Suite 220, Top of Isotec Switchbox	12" X 12"
✓ 10	Carpet Sample, First Floor, Intersection of Elevator Lobby and Main Lobby	12" X 12"

* NOTE: All samples taken @ 1 liters/minute for 60 seconds.

TABLE 11-18
DUST SAMPLES
2600 BUILDING
CENTURY CENTER IV
LAI PROJECT NUMBER 1188-2120.18

<u>Sample Number</u>	<u>Location/Description</u>	<u>Sample Area</u>
1	Dust Sample, Fourth Floor South Center Room, Back of Ceiling Tile	12" X 12"
2	Dust Sample, Fourth Floor Air Handler Room, Top of Duct	12" X 12"
3	Dust Sample, Third Floor Air Handler Room, Top of Duct	12" X 12"
4	Carpet Sample, Suite 175, Left Rear Corner	12" X 12"
5	Dust Sample, Basement Mechanical Room, Top of Breaker Box	3" X 18"
6	Carpet Sample, Basement Mechanical Room Office, Behind Door	12" X 12"
7	Carpet Sample, 1st Floor Lobby, West Side base of Steps	12" X 12"
8	Carpet Sample, Service Elevator, left Front Corner	12" X 12"

NOTE: All samples taken @ 2 liters/minutes for 60 seconds.



PREPPED DUST SAMPLE CASSETTE LABELS:

MAS JOB NUMBER:

M 2140

CLIENT JOB NUMBER:

SAMPLE NUMBER:LABEL:

1	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60secs.	Sample #1,	2200 Bldg.
2	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60secs.	Sample #2,	2200 Bldg.
3	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60secs.	Sample #3,	2200 Bldg.
4.	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump #: 7725	T=60sec.	Sample #4,	2200 Bldg.
5.	A88-120.18	12-19-88	Engr: B.S.	Flow: 2 lpm
	Pump # 7725	T=60sec.	Sample #5,	2200 Bldg.
6	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60sec	Sample #6,	2200 Bldg.
7	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60secs	Sample #7,	2200 Bldg.
8	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60secs	Sample #8,	2200 Bldg.
9	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60sec	Sample #9,	2200 Bldg.
10.	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725		Sample #10,	2200 Bldg.
11	A88-120.18	12-19-88	Engr: BS	Flow: 2 lpm
	Pump # 7725	T=60sec	Sample #1,	2600 Bldg.



PREPPED DUST SAMPLE CASSETTE LABELS:

MAS JOB NUMBER:

M 2140

CLIENT JOB NUMBER:

SAMPLE NUMBER:LABEL:

12

A88-120.18 12-19-88 Engr. BS Flow 2 lpm

Pump # 7725 T=60 sec Sample # 2, 2600 Bldg.

13

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 Sample # 3, 2600 Bldg.

14

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 T=60 sec. Sample # 4, 2600 Bldg.

15

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 T=60 sec Sample # 5, 2600 Bldg.

16

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 T=60 sec Sample # 6, 2600 Bldg.

17

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 T=60 sec Sample # 7, 2600 Bldg.

18

A88-120.18 12-19-88 Engr. BS Flow: 2 lpm

Pump # 7725 T=60 sec Sample # 8, 2600 Bldg.

PROJECT NAME:

Donna / Keweenaw

DATE OF PREP:

7-30-90 (1-10)

PROJECT NUMBER:

M21407-31-90 (11-18)

TYPE OF SAMPLES:

DUST

DATE DUE:

PREP TECH:

Donna / Keweenaw

PREP SOP #:

MT-003

LAB I.D. #	CLIENT I.D. #	FILTER TYPE	VOLUME FILTERED NO. 1	VOLUME FILTERED NO. 2	VOLUME FILTERED NO. 3	TOTAL SUSPENSION VOLUME	COMMENTS
M2140 -1	9th floor 3rd floor	47mm NCE	1ml	10ml		100ml	
M2140 -2	9th floor	"	2nd	20ml			
M2140 -3	10th floor	"	1ml	10ml			
M2140 -4	10th floor	"	0.1ml	1ml			
M2140 -5	5th floor	"	1ml	10ml			
M2140 -6	5th floor	"	0.2ml	2ml			
M2140 -7	4th floor	"	2nd	15ml			
M2140 -8	3rd floor	"	0.5ml	5ml			
M2140 -9	2nd floor	"	0.1ml	7ml			
M2140 -10	10th floor	"	1ml	10ml			
M2140 -11	10th floor	"	0.7ml	7ml			
M2140 -12	4th floor	47mm NCE	0.5ml				

LAB I.D. #	CLIENT I.D. #	FILTER TYPE	VOLUME FILTERED NO. 1	VOLUME FILTERED NO. 2	VOLUME FILTERED NO. 3	TOTAL SUSPENSION VOLUME	COMMENTS
M2140-13	3rd floor deck	47mm MCE	0.5ul	5ul		100ul	
M2140-14	3rd floor	"	2ul	20ul			
M2140-15	Basement	"	0.5ul	5ul			
M2140-16	Basement	"	2ul	20ul			
M2140-17	1st floor	"	2ul	15ul			
M2140-18	Same Col. as 17	"	2ul	20ul			
—	Lab Blank	47mm MCE					Box 21 D-5-D-15

PRINCE GEORGE
LABORATORY
1. G182
PAGE # 12

MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

Client: LOW Assoc. / KENNESAW

Sample ID: No. 1

MAS Job Number: M 2140-1

Date Sample Analyzed: Grid 1 - 73 x 24 x 9 Grid 2 - 90

Number of Openings/Grids Counted: 10.12

Grid Accepted, 600X: Yes No 4%

Analyst: W. Smith

Dilution Factor: 1: 0.0676.667

Calculating Results For Verbal Issue:

Effective Filter Area:

Number of Grid Openings Examined:

Average Grid Opening Area in sq. mm:

Volume of Liquid Filtered in ml:

Area Sampled in Sq. Ft.:

Number of Asbestos Structures Counted:

Accelerating Voltage: 100 KV

Indicated Mag: 20 KX ~~25 KX~~

Screen Mag: 15414 KX ~~20 KX~~

Microscope Number: 1 2 3 4

Filter Type: MCE PC, Other =

Filter Size: 25mm, 37mm, 47mm

Filter Pore Size (um): 0.22

Grid Opening: 1) 88.1 um x 87.6 um

2) 93.7 um x 89.6 um

(A) 1339

(B) 10

(C) 0.008057

(D) 15

(E) 1

(F) 18

STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B \cdot C} \cdot \frac{100}{D} \cdot \frac{1}{E} \cdot F = (\text{asbestos structures per sq. ft.})$$

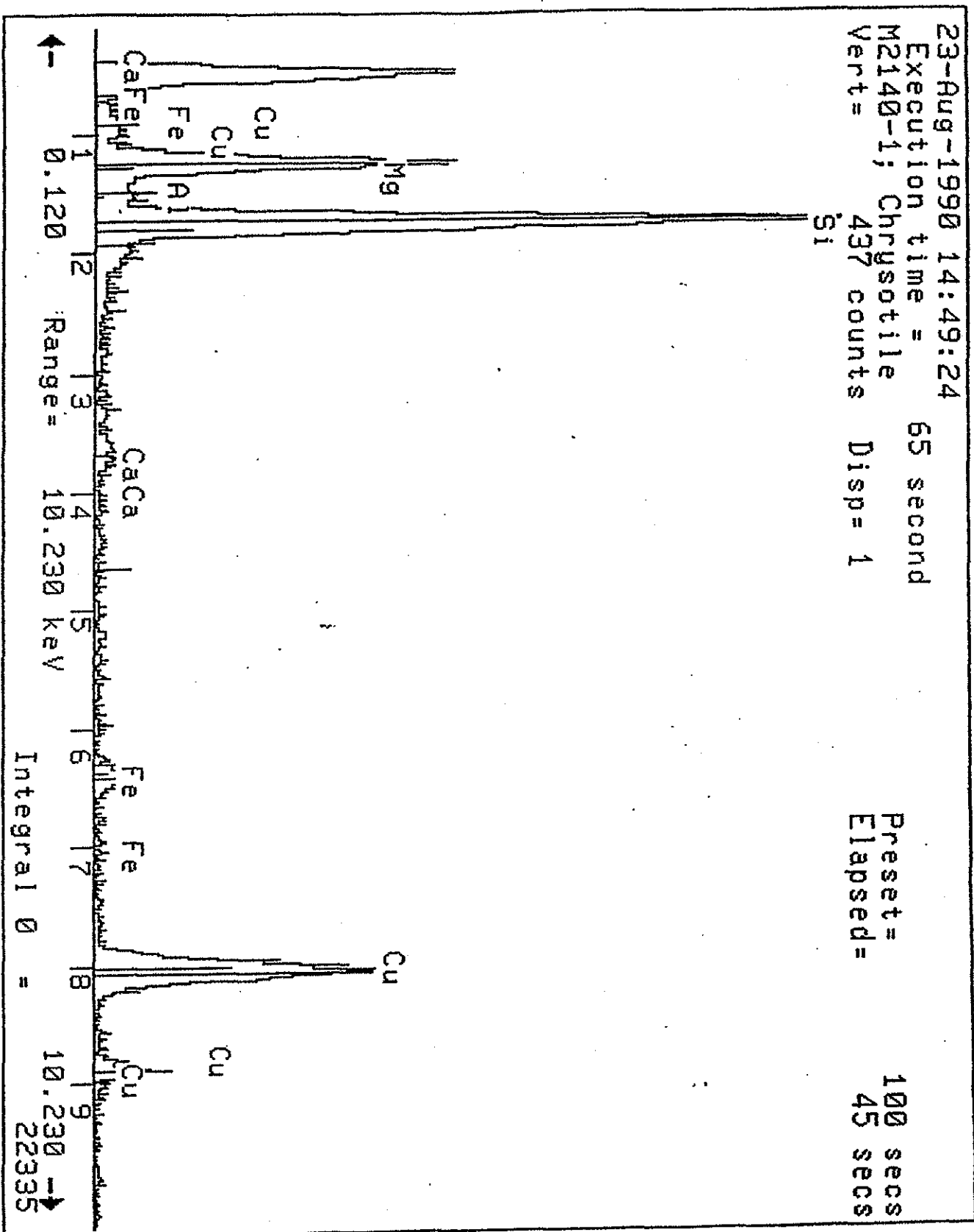
Calculations:

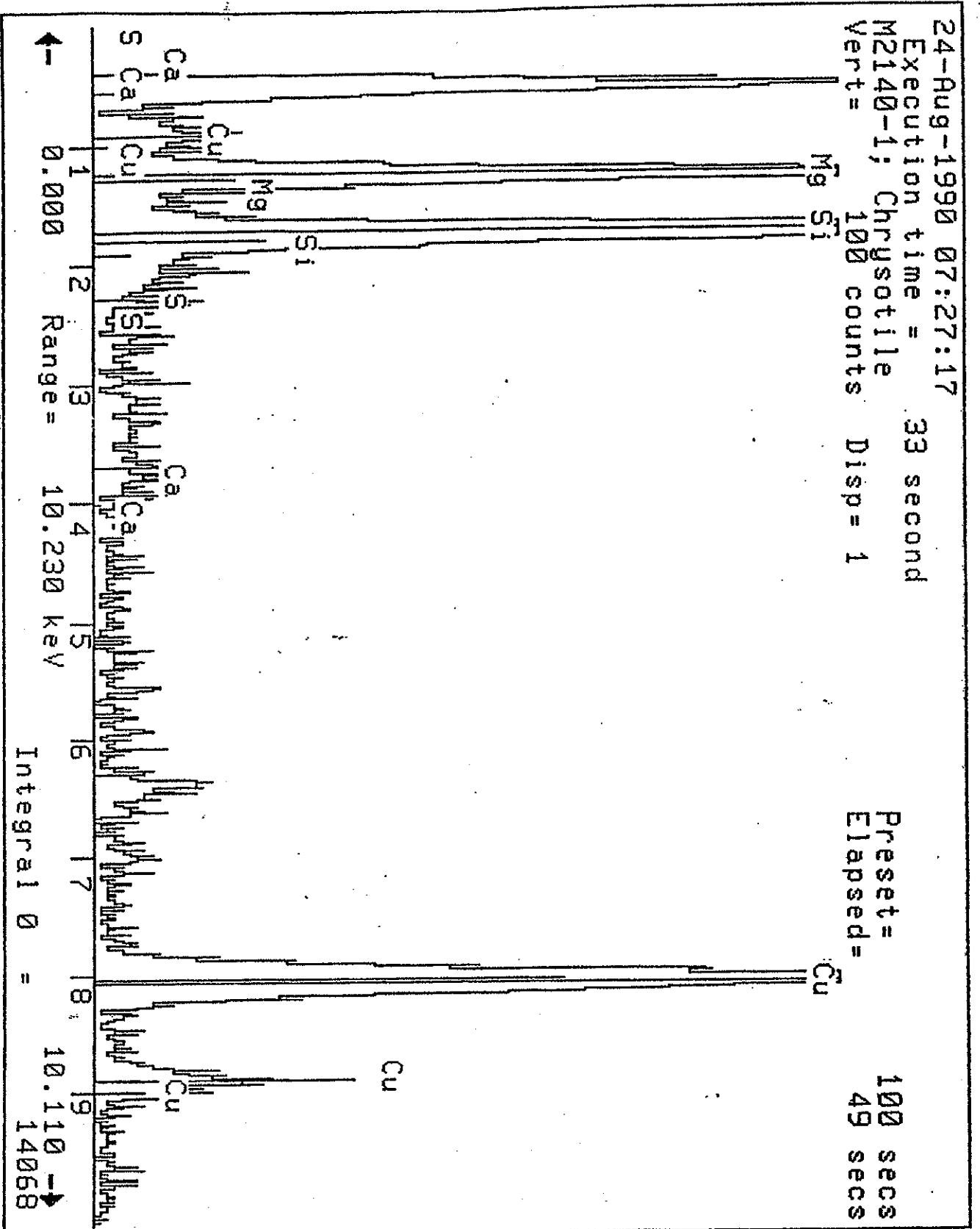
$$\frac{1339}{10 \cdot 0.008057} \cdot \frac{100}{15} \cdot \frac{1}{1} \cdot 18 =$$

1.994 x 10⁶

M 2140-1







MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 11Client: LAW ASSOC / KENNEDY & ASSOCAccelerating Voltage: 100 KVSample ID: # 2Indicated Mag: 20 - 25KX WPS
Screen Mag: 15414 20KX WPSMAS Job Number: M 2140-2Microscope Number: (1) 2 3
Filter Type: MCE PC, Other =Date Sample Analyzed: 24 - Aug - 90Filter Size: 25mm, 37mm, (47mm)Number of Openings/Grids Counted: 10.1 2Filter Pore Size (um): 0.22Grid Accepted, 600X: Yes No 390Grid Opening: 1) 94.2 um x 93.7Analyst: W. B. Smith / R. Harmon2) 92 um x 92Dilution Factor: 1: 50Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1339

Number of Grid Openings Examined:

(B) 10

Average Grid Opening Area in sq. mm:

(C) 0.008645

Volume of Liquid Filtered in ml:

(D) 2

Area Sampled in Sq. Ft.:

(E) 1

Number of Asbestos Structures Counted:

(F) 30STRUCTURES PER SQ. FT. FORMULA:

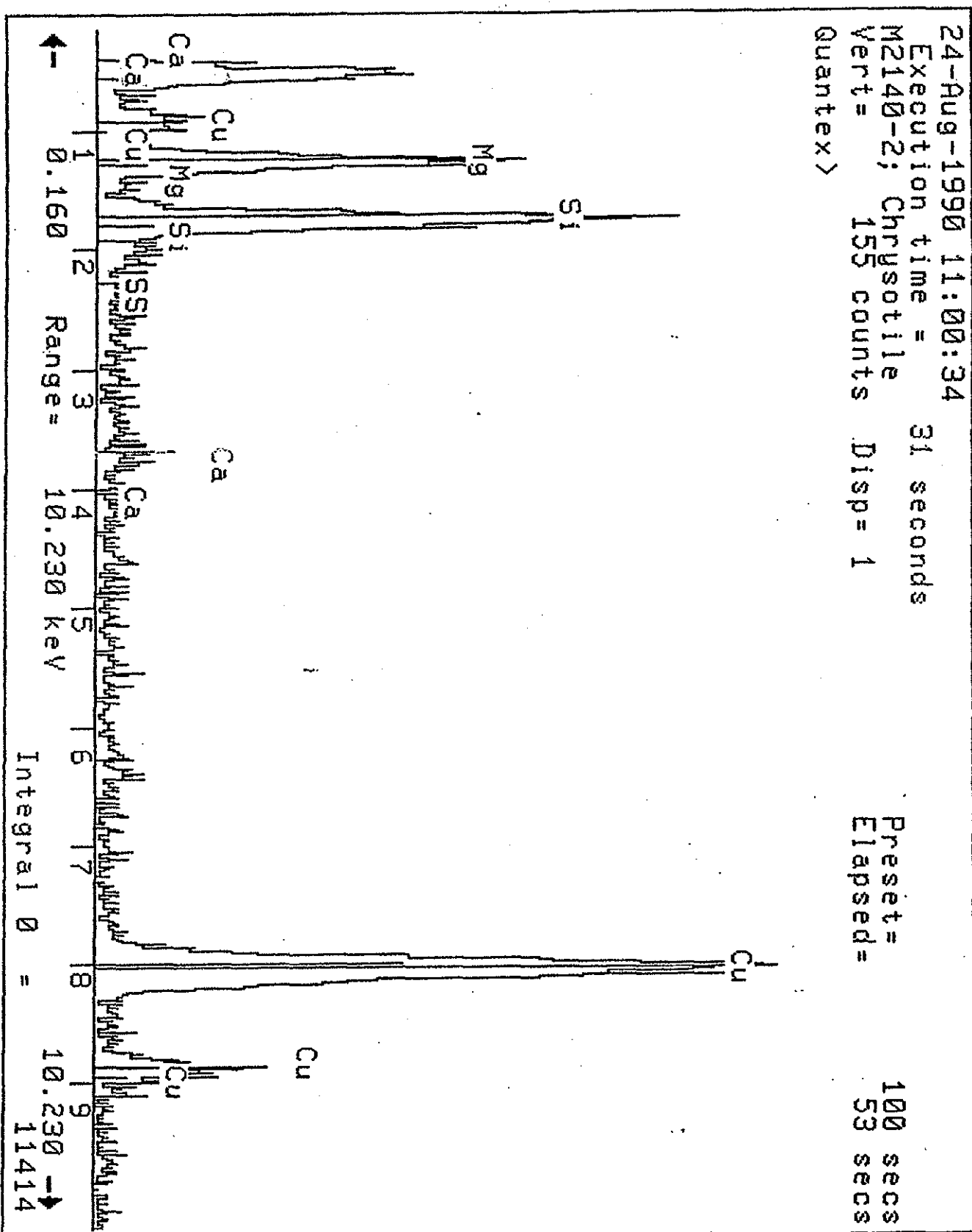
$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{100}{E} \cdot F = \text{(asbestos structures per sq. ft.)}$$

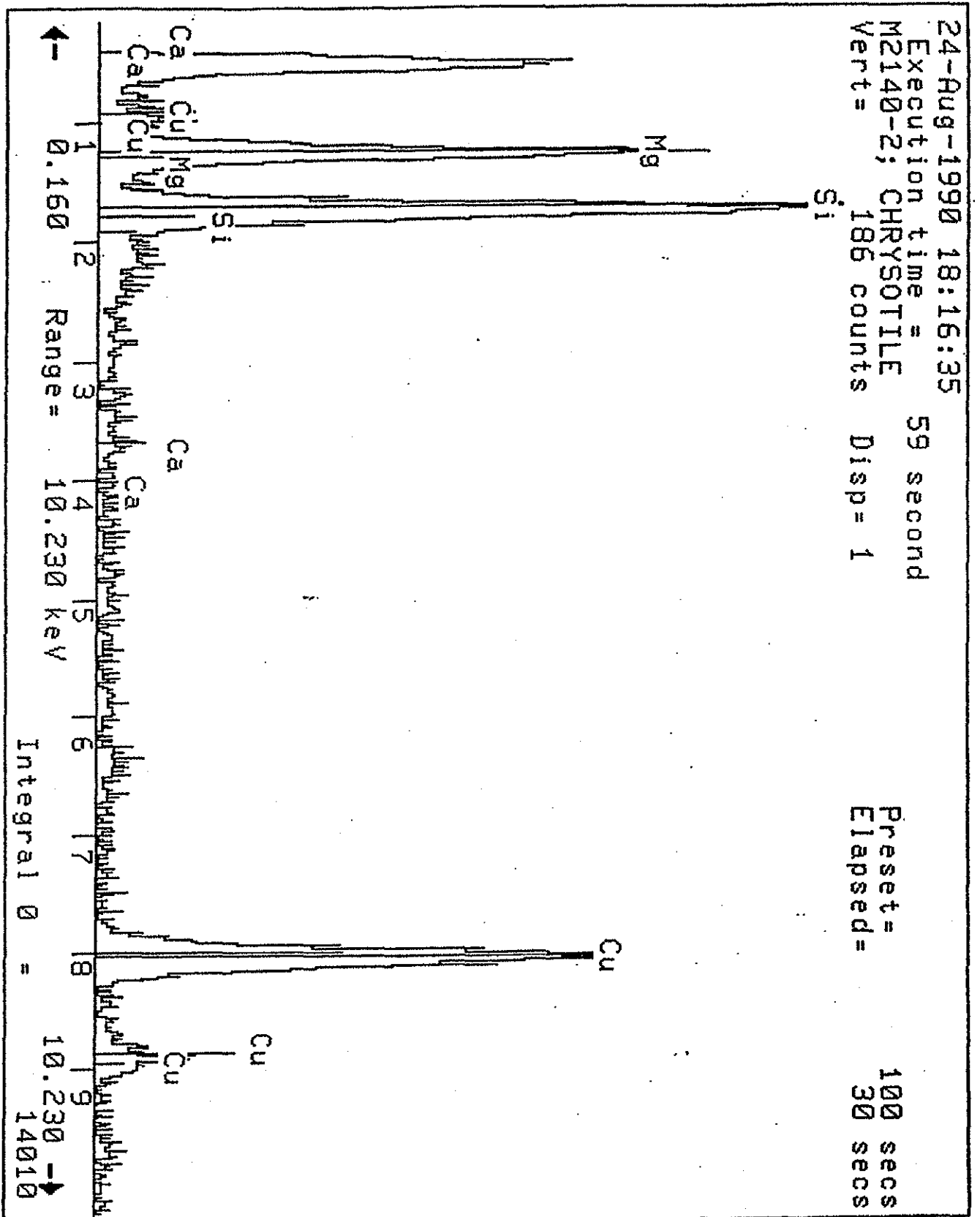
Calculations:

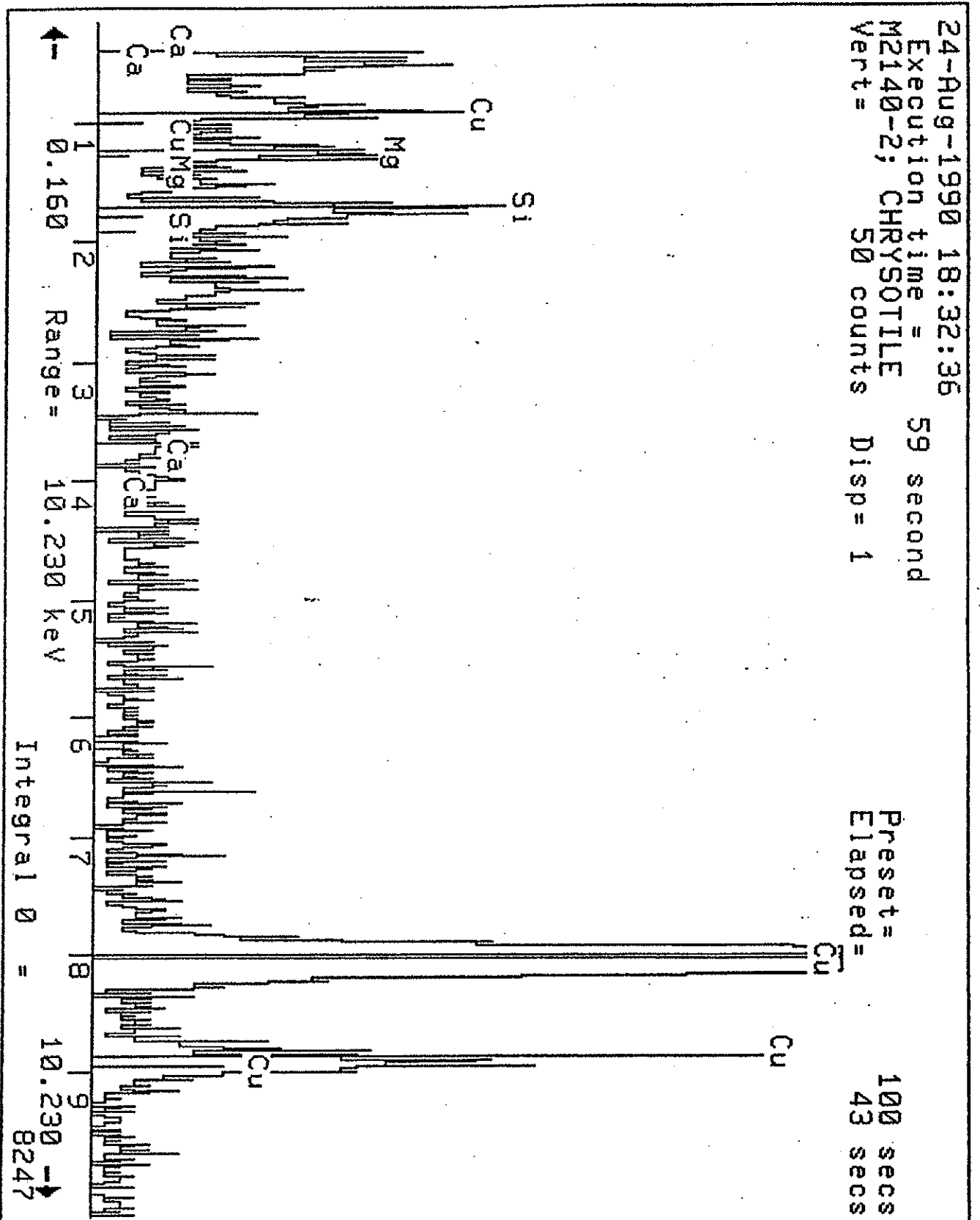
$$\frac{1339}{10} \cdot \frac{0.008645}{2} \cdot \frac{100}{1} \cdot 30 = 21,323 \times 10^3$$

CLIENT: CLAW ASSOC. / KEMESAWPAGE # 212MAS JOB NUMBER: M 2140-2

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
1	1-1	C	F	1	.15	✓	✓	✓
2		C	M	3.5	0.2	✓	✓	P.O.
3	1-2	C ^{WPS}	B	1	0.15	✓	✓	✓
4	1-3	C	F	1.8	0.15	✓	✓	✓
5		C	F	1	0.15	✓	✓	✓
6	1-4	C	F	1.2	0.1	✓	✓	✓
7		C	F	2.2	0.2	✓	✓	✓
8		C	F	1.5	0.15	✓	✓	✓
9		C	F	2.5	0.2	✓	✓	✓
10		C	F	6.0	0.2	✓	✓	✓
11	1-5	C	M	1.5	0.15	✓	✓	P.O.
12		C	F	1	0.15	✓	✓	✓
13		C	F	1.5	0.15	✓	✓	✓
14	2-1	C	f	1.8	0.1	—	—	
15		C	f	2.0	0.1	—	—	
16	2-2	C	f	2.5	0.1	—	—	
17	2-3	C	f	8.0	0.1	—	—	
18		C	f	1.0	0.1	—	—	
19		C	C	5.5	2.2	—	—	
20		C	B	6.0	0.2	—	—	PD
21		C	f	4.8	0.1	—	—	
22		C	f	12.0	0.1	—	—	
23	2-4	C	f	1.5	0.1	—	—	
24		C	f	4.0	0.1	—	—	
25		C	f	2.2	0.1	—	—	
26	2-5	C	f	3.8	0.1	—	—	
27		C	f	2.5	0.1	—	—	
28		C	B	6.5	0.2	—	—	
29		C	C	3.0	2.5	—	—	
30		C	B	3.8	0.4	—	—	PD







MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 1.15Client: LAW ASSOC / KENNEDY & ASSOCAccelerating Voltage: 100 KVSample ID: #3Indicated Mag: 20 - 25KX
Screen Mag: 154/14 20KXMAS Job Number: M 21403Microscope Number: 1 2 3 4Date Sample Analyzed: 24 - Aug - 90Filter Type: MCE PC, Other =
Filter Size: 25mm, 37mm, 47mmNumber of Openings/Grids Counted: 10.12Filter Pore Size (um): 0.22Grid Accepted, 600X: Yes No 3%Grid Opening: 1) 93 um x 90 umAnalyst: W.P. Smith only al-Hamman2) 88 um x 90 umDilution Factor: 1: 10:0Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1739

Number of Grid Openings Examined:

(B) 10

Average Grid Opening Area in sq. mm:

(C) 0.008145

Volume of Liquid Filtered in ml:

(D) 1

Area Sampled in Sq. Ft.:

(E) 1

Number of Asbestos Structures Counted:

(F) 91STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{100}{E} \cdot F = (\text{asbestos structures per sq. ft.})$$

Calculations:

$$\frac{1739}{10} \cdot \frac{0.008145}{1} \cdot \frac{100}{1} \cdot \frac{1}{1} \cdot 91 = 11496 \times 10^8$$

CLIENT: LAW ASSOC. / KENNEDYPAGE # 215MAS JOB NUMBER: M 2140-3

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
1	1-1	C	M	3	0.2	✓	✓	✓
2		C	M	1	0.15	✓	✓	P.O.
3		C	F	1.2	0.2	✓	✓	✓
4		C	F	1.1	0.15	✓	✓	✓
5		C	F	1.4	0.15	✓	✓	✓
6		C	F	0.9	0.15	✓	✓	✓
7		C	F	2.0	0.15	✓	✓	✓
8		C	F	0.9	0.15	✓	✓	✓
9		C	B	0.9	0.4	✓	✓	✓
10		C	F	3.6	0.2	✓	✓	✓
11	1-2	C	f	6.0	0.1	—	—	PO
12		C	f	2.8	0.1	—	—	
13		C	f	2.5	0.1	—	—	
14		C	f	0.8	0.1	—	—	
15		C	f	1.5	0.1	—	—	
16		C	f	1.2	0.1	—	—	
17		C	f	5.0	0.1	—	—	
18	1-3	C	f	1.0	0.1	—	—	
19		C	f	2.8	0.1	—	—	
20		C	f	1.5	0.1	—	—	PO
21		C	B	2.8	0.16	✓	—	
22		C	f	3.8	0.1	—	—	
23		C	f	1.5	0.1	—	—	
24		C	f	6.5	0.1	—	—	
25	1-4	C	f	6.0	0.1	—	—	
26		C	f	7.0	0.1	—	—	
27		C	f	2.5	0.1	—	✓	
28		C	f	3.5	0.1	—	—	
29		C	f	4.5	0.1	—	—	
30		C	f	1.5	0.1	—	—	PO

CLIENT: LHW 8802 / KEMERSONPAGE # 315MAS JOB NUMBER: M 2140-3

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
31	1-4 C2-10	C	C	4.0	1.8	✓	✓	
32		C	f	1.0	0.1	—	—	
33		C	f	2.0	0.1	—	—	
34		C	C	3.5	2.5	—	—	
35		C	f	1.5	0.1	—	—	
36		C	f	4.2	0.1	—	—	
37		C	B	6.5	0.2	—	—	
38		C	f	1.2	0.1	—	—	
39		C	f	2.5	0.1	—	—	
40		C	f	2.0	0.1	✓	—	PD
41	1-5	C	C	5.5	4.0	✓	—	
42		C	f	3.6	0.1	✓	—	
43		C	f	8.5	0.1	—	—	
44		C	f	4.2	0.1	—	—	
45		C	f	2.0	0.1	—	—	
46		C	f	4.0	0.1	—	—	
47		C	f	3.2	0.1	—	—	
48		C	f	8.0	0.1	—	—	
49		C	f	2.2	0.1	—	—	
50		C	f	2.5	0.1	—	—	PD
51		C	f	2.2	0.1	—	—	
52		C	f	12.0	0.1	—	—	
53	2-1	C	f	1.5	0.1	—	—	
54		C	f	4.8	0.1	—	—	
55		C	f	5.0	0.1	—	—	
56		C	f	1.5	0.1	—	—	
57	2-2	C	f	2.2	0.1	—	—	
58		C	f	1.2	0.1	—	—	
59		C	f	1.5	0.1	—	—	
60		C	f	3.0	0.1	—	—	PD

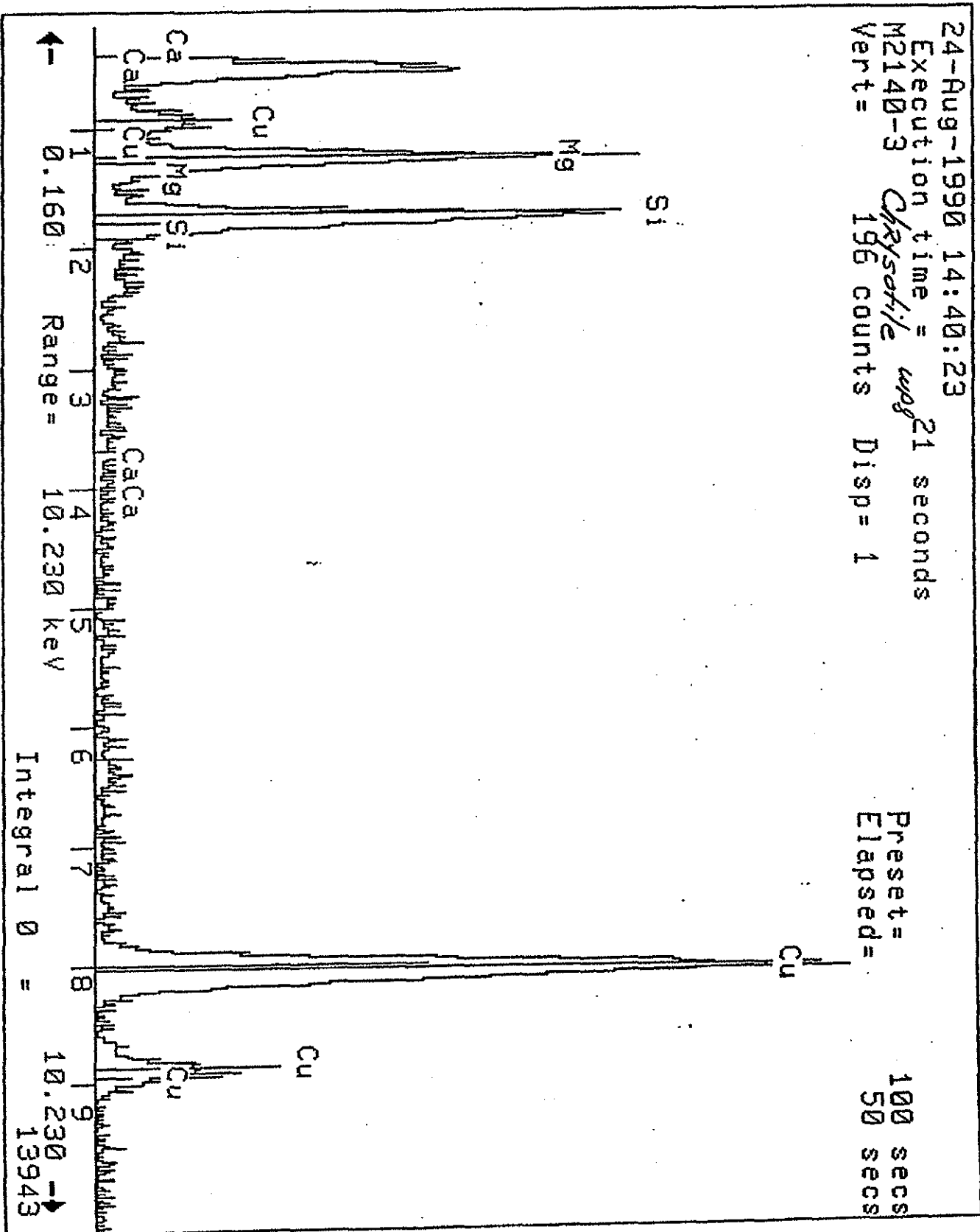
CLIENT: LHW ASSOC / KENNEDYPAGE # 415MAS JOB NUMBER: M 2140-3

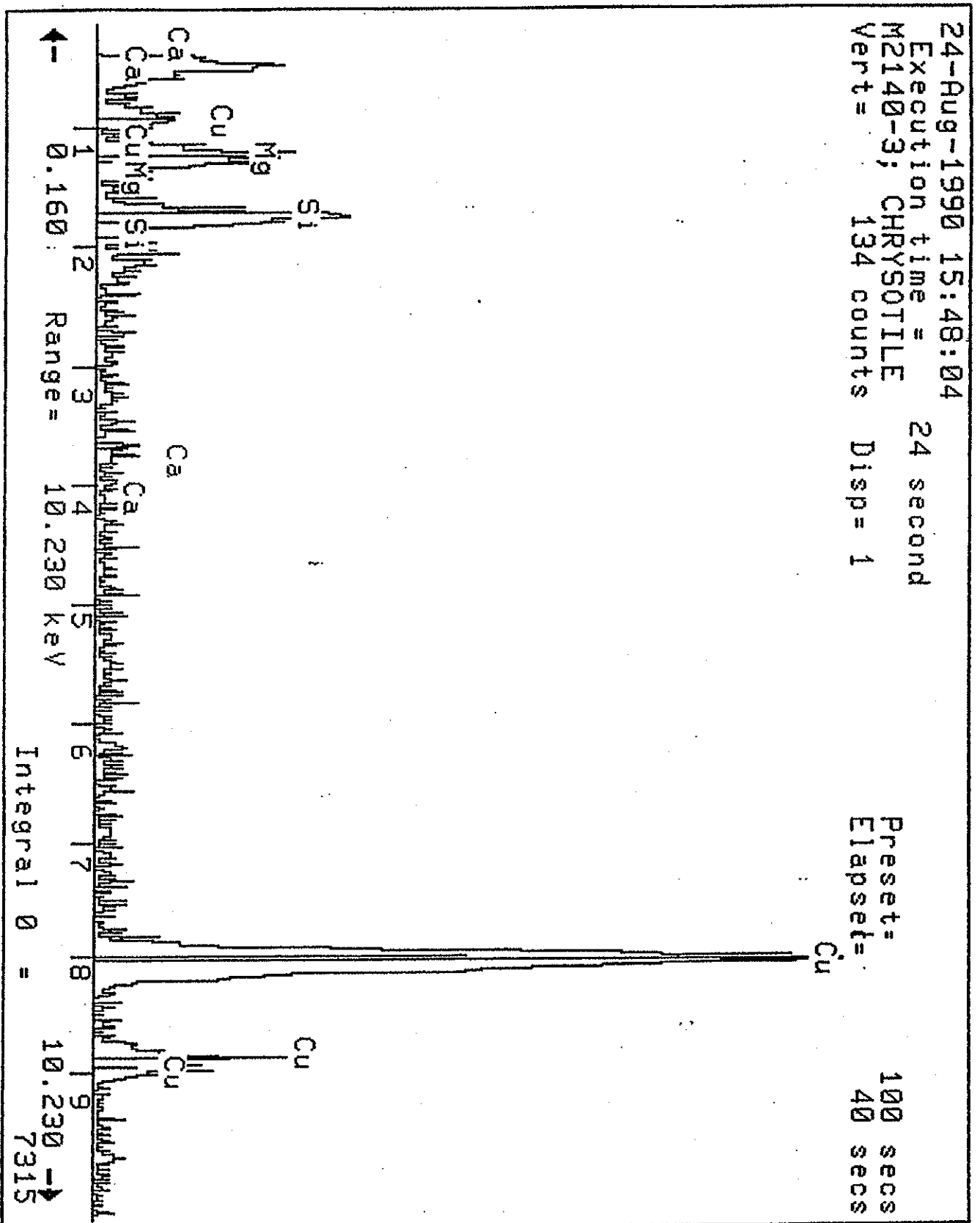
STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
61	2-2	C	F	3.0	0.1	✓	✓	
62		C	C	3.5	1.8	✓	—	
63		C	B	1.5	0.2	—	—	
64	2-3	C	F	2.2	0.1	—	—	
65		C	B	4.5	0.2	✓	—	
66		C	M	3.2	2.8	—	—	
67		C	M	2.5	2.0	✓	—	
68		C	F	1.5	0.1	—	—	
69		C	C	5.0	3.8	—	—	
70		C	F	3.2	0.1	—	—	PD
71		C	B	1.8	0.2	—	—	
72	2-4	C	F	6.5	0.1	—	—	
73		C	F	1.2	0.1	✓	—	
74		C	F	6.8	0.1	—	—	
75		C	F	1.5	0.1	✓	—	
76		C	F	2.2	0.1	—	—	
77		C	F	3.2	0.1	—	—	
78		C	F	2.8	0.1	—	—	
79		C	F	2.2	0.1	—	—	
80		C	M	3.8	3.0	✓	—	PD
81		C	F	4.5	0.1	—	—	
82		C	C	2.0	1.0	✓	✓	
83	2-5	C	F	3.5	0.1	—	—	
84		C	F	1.0	0.1	—	—	
85		C	F	1.2	0.1	—	—	
86		C	M	4.5	2.5	—	—	
87		C	F	2.0	0.1	—	—	
88		C	F	5.0	0.1	—	—	
89		C	F	3.5	0.1	—	—	
90		C	C	4.0	1.5	—	—	AD

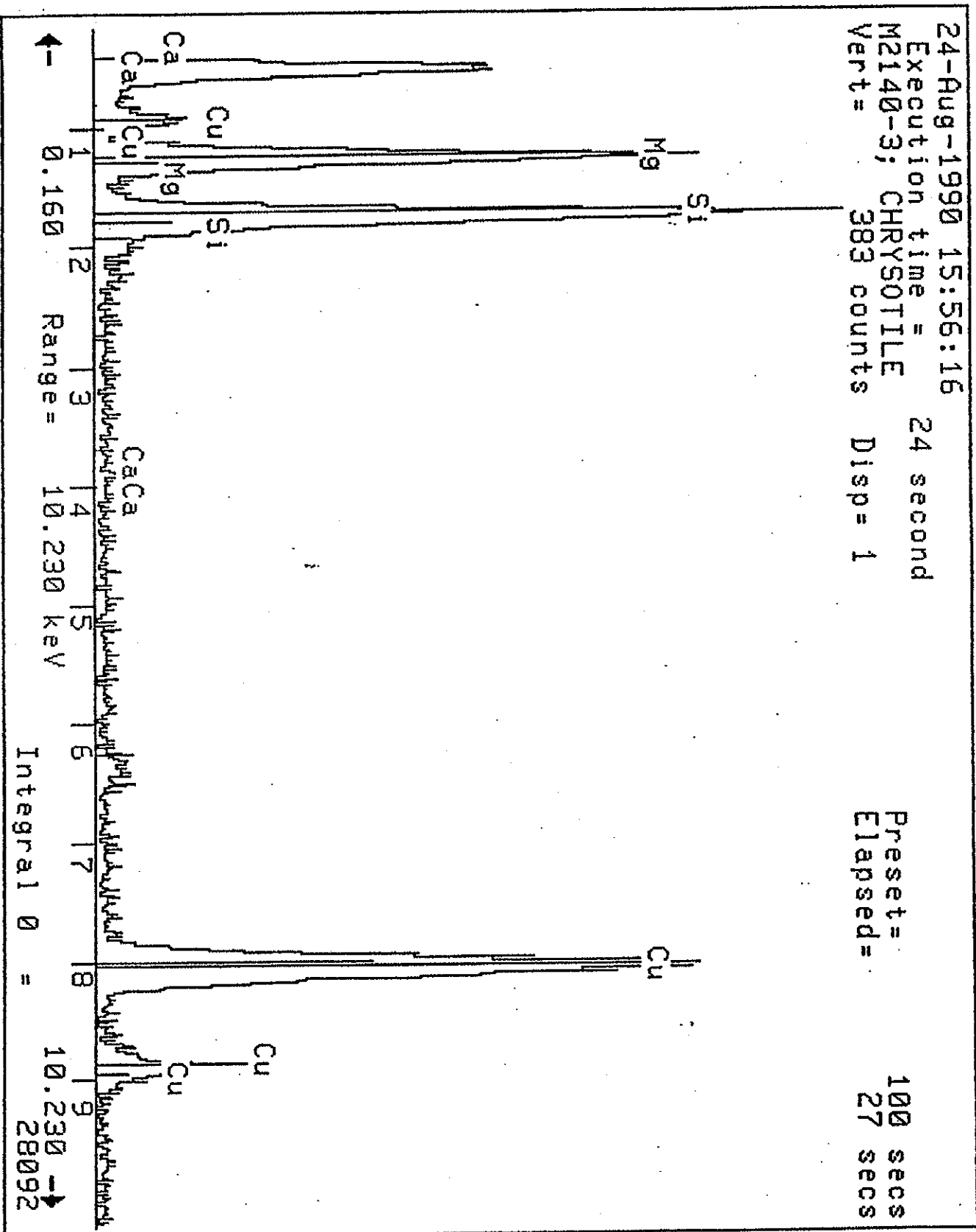
PAGE # 515

MAS JOB NUMBER: M 2140-3

[illegible]



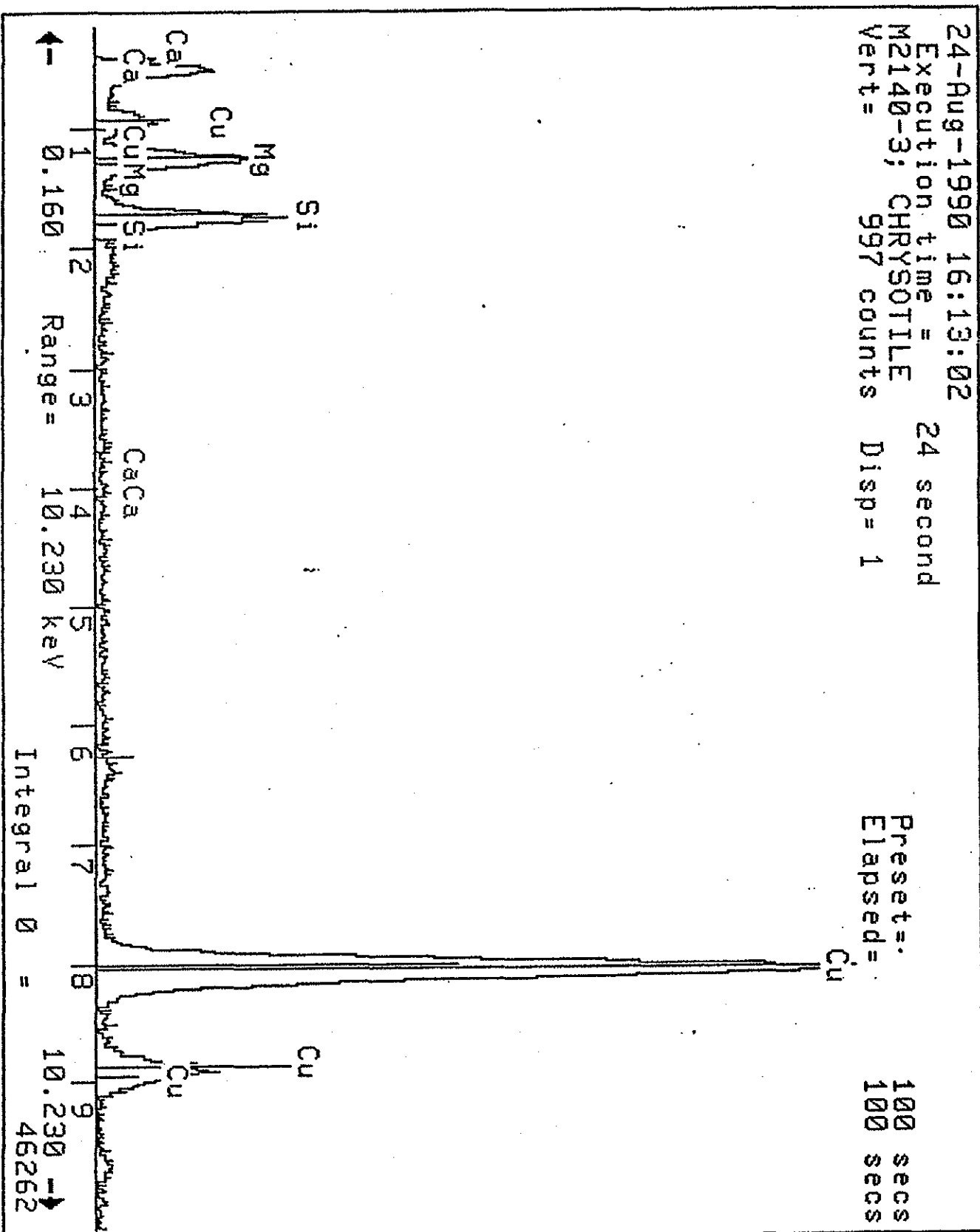


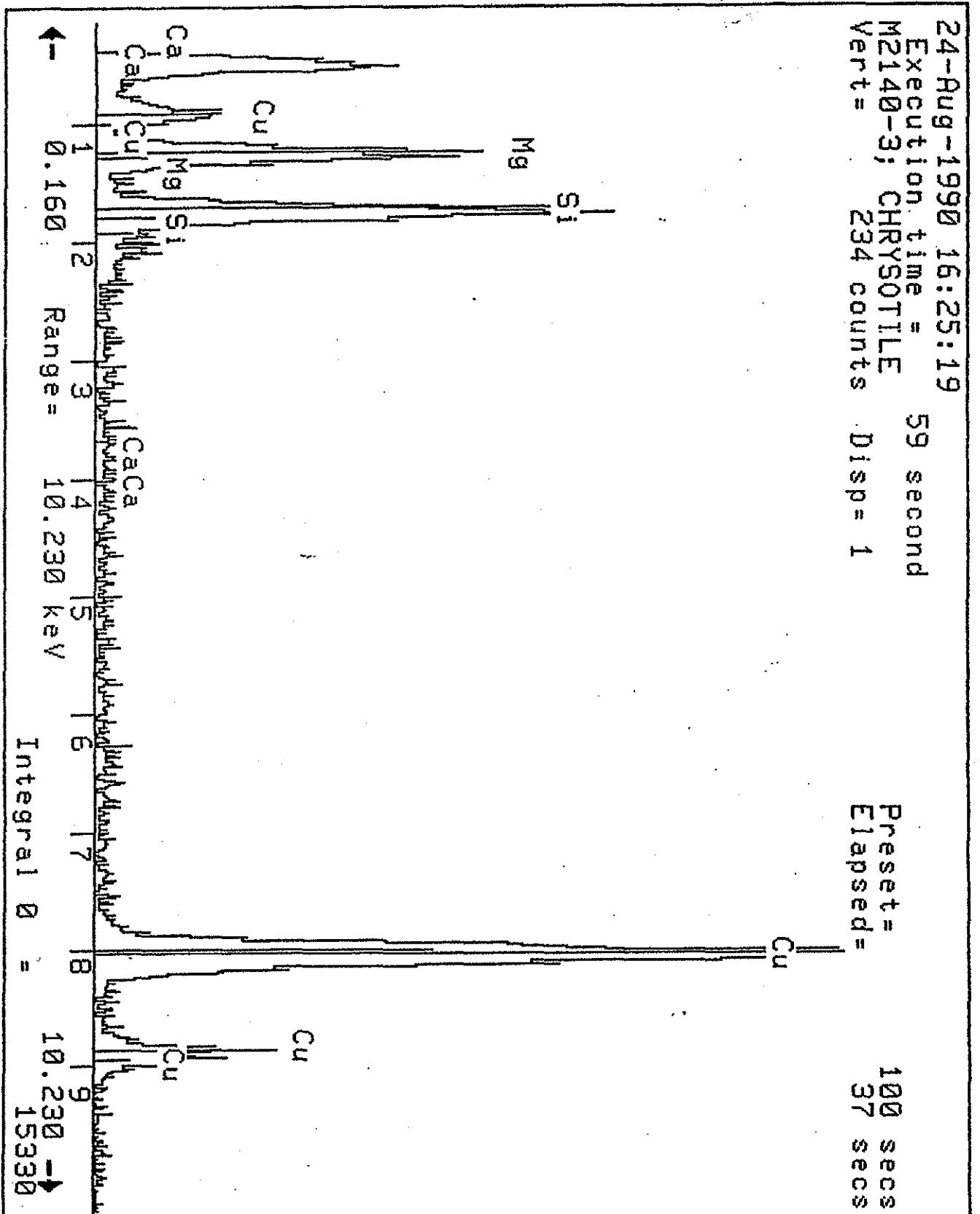


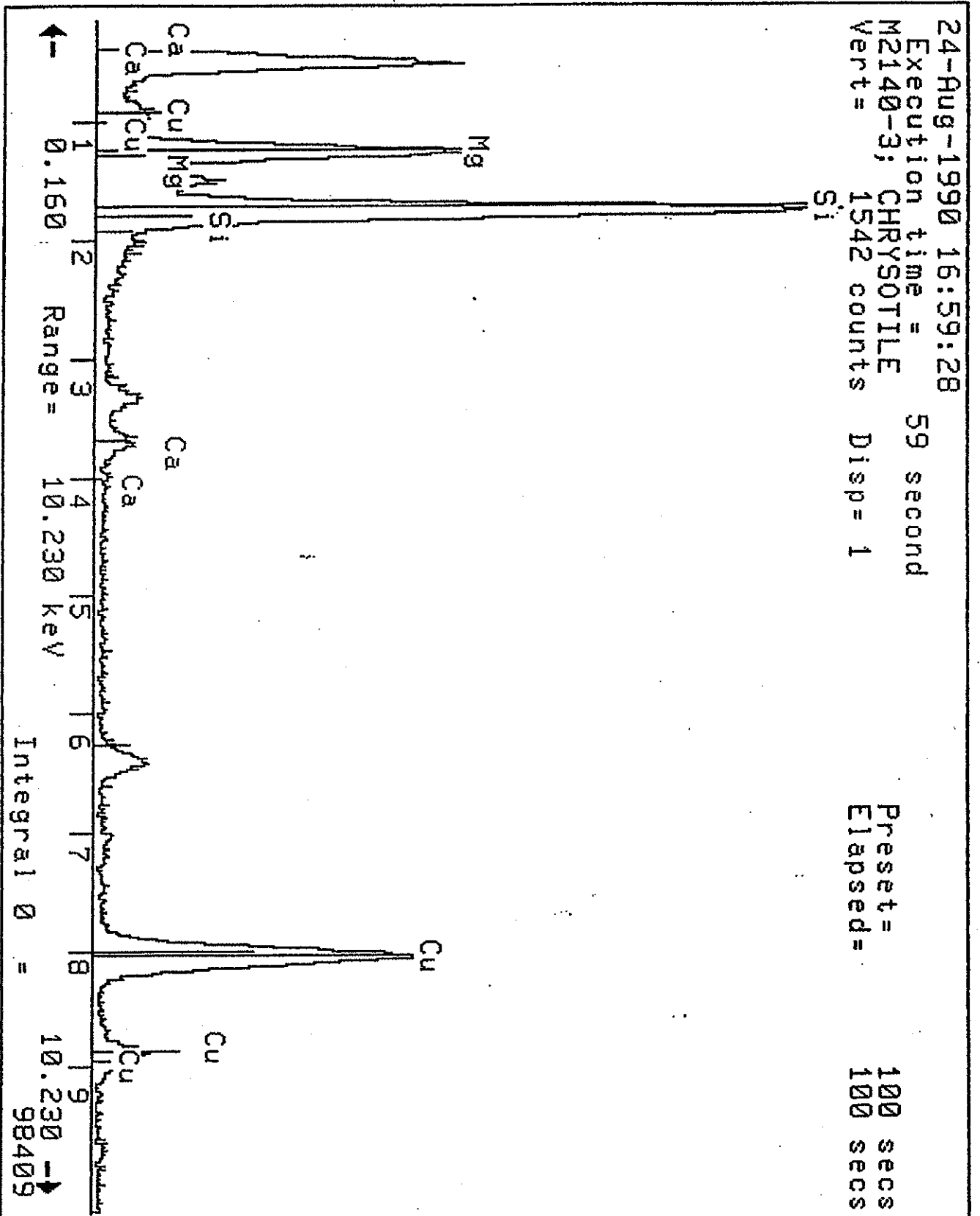
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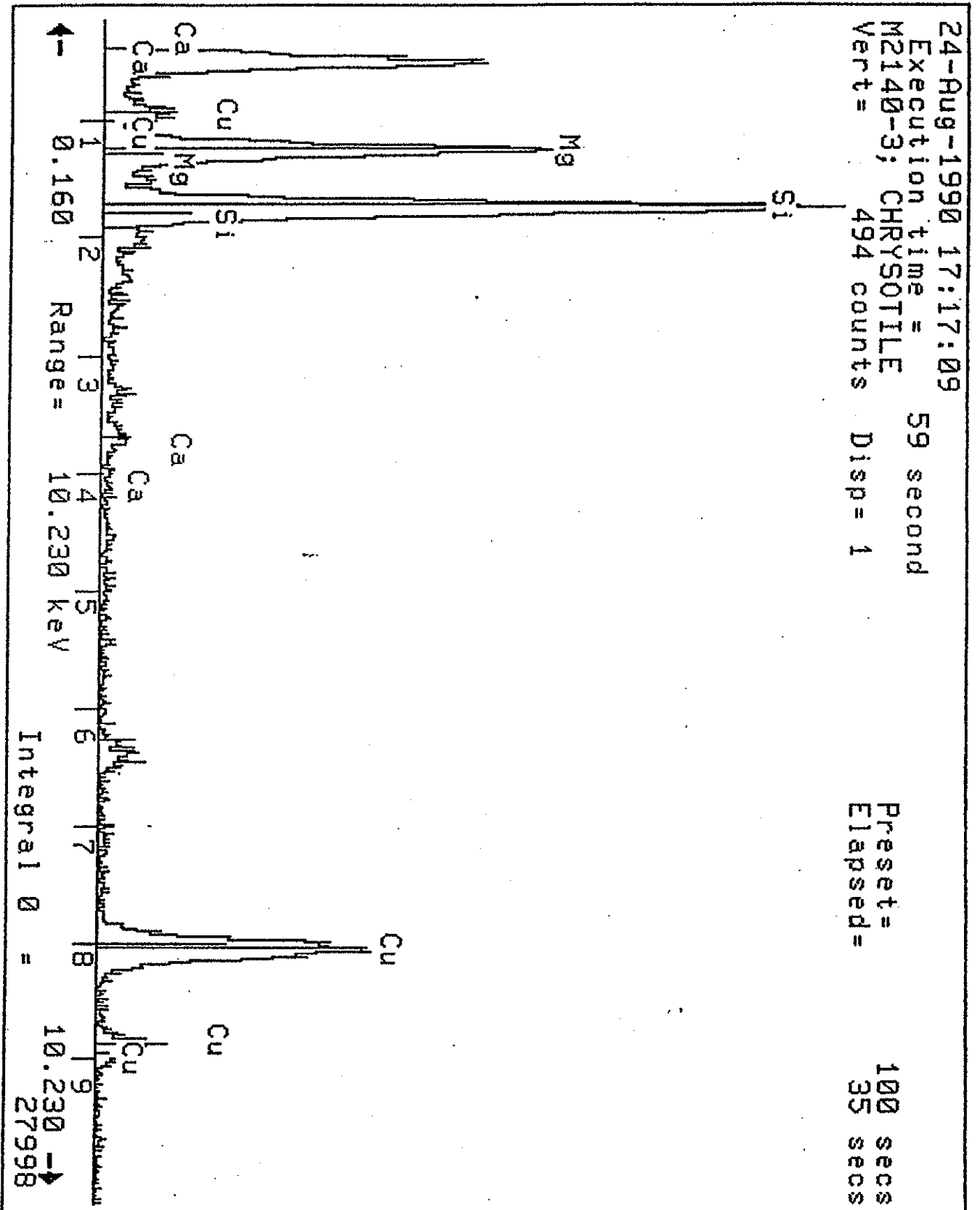
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Elapsed=30 secs

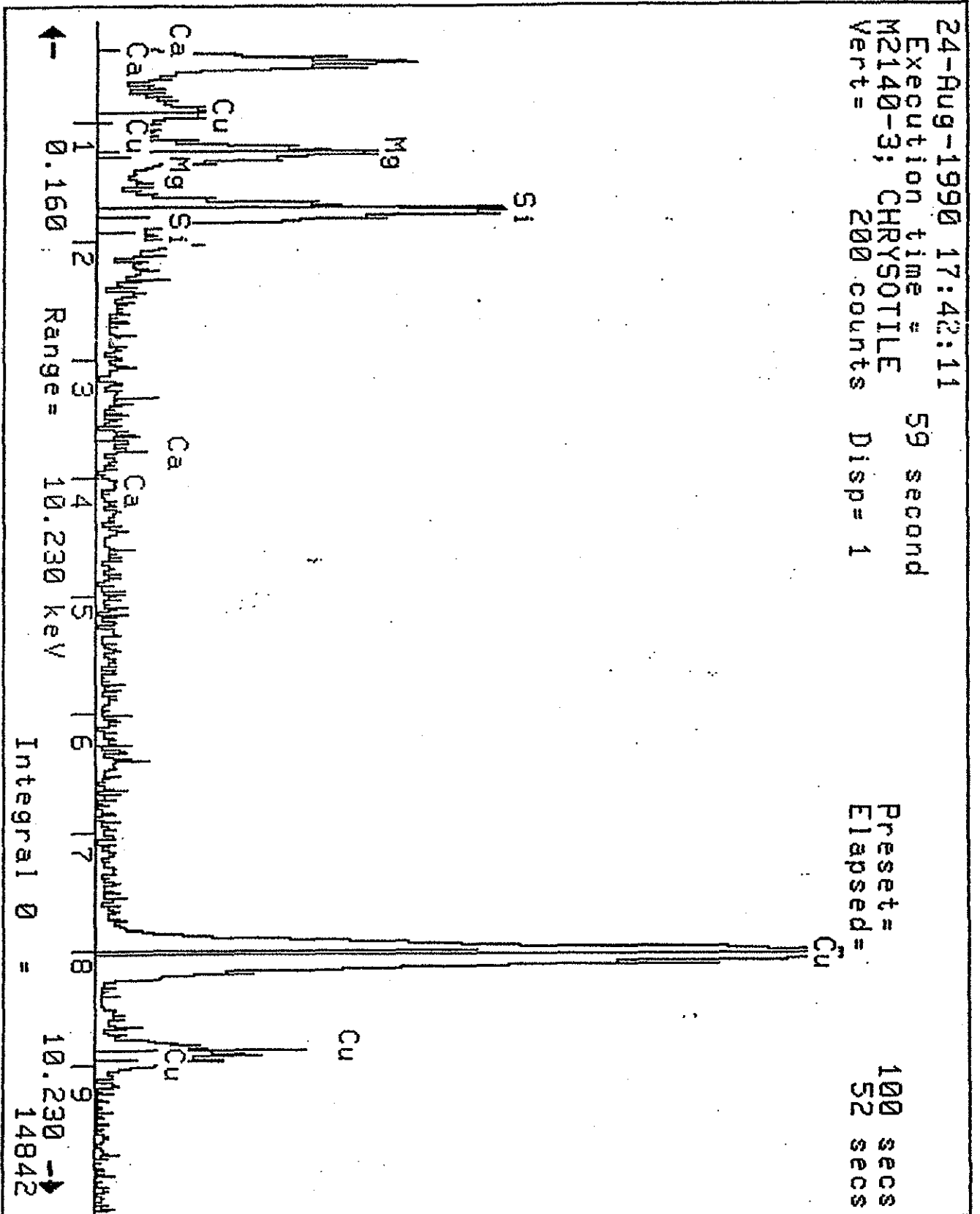
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MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 1.12Client: LAW ASSOC / KENNEDYAccelerating Voltage: 100 KVSample ID: 4Indicated Mag: 20 25KX
Screen Mag: 15414 20KXMAS Job Number: M 2140-4Microscope Number: 1 2 3 4Date Sample Analyzed: 8-27-90Filter Type: MCE PC, Other =Filter Size: 25mm, 37mm, 47mmNumber of Openings/Grids Counted: 101 2Filter Pore Size (um): 0.22Grid Accepted, 600X: Yes No 1090Grid Opening: 1) 88 um x 89 uAnalyst: Al Harmon2) 90 um x 91 uDilution Factor: 1: 50Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1339

Number of Grid Openings Examined:

(B) 10

Average Grid Opening Area in sq. mm:

(C) 0.008011

Volume of Liquid Filtered in ml:

(D) 2

Area Sampled in Sq. Ft.:

(E) 1

Number of Asbestos Structures Counted:

(F) 3STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{100}{E} \cdot F = \text{(asbestos structures per sq. ft.)}$$

Calculations:

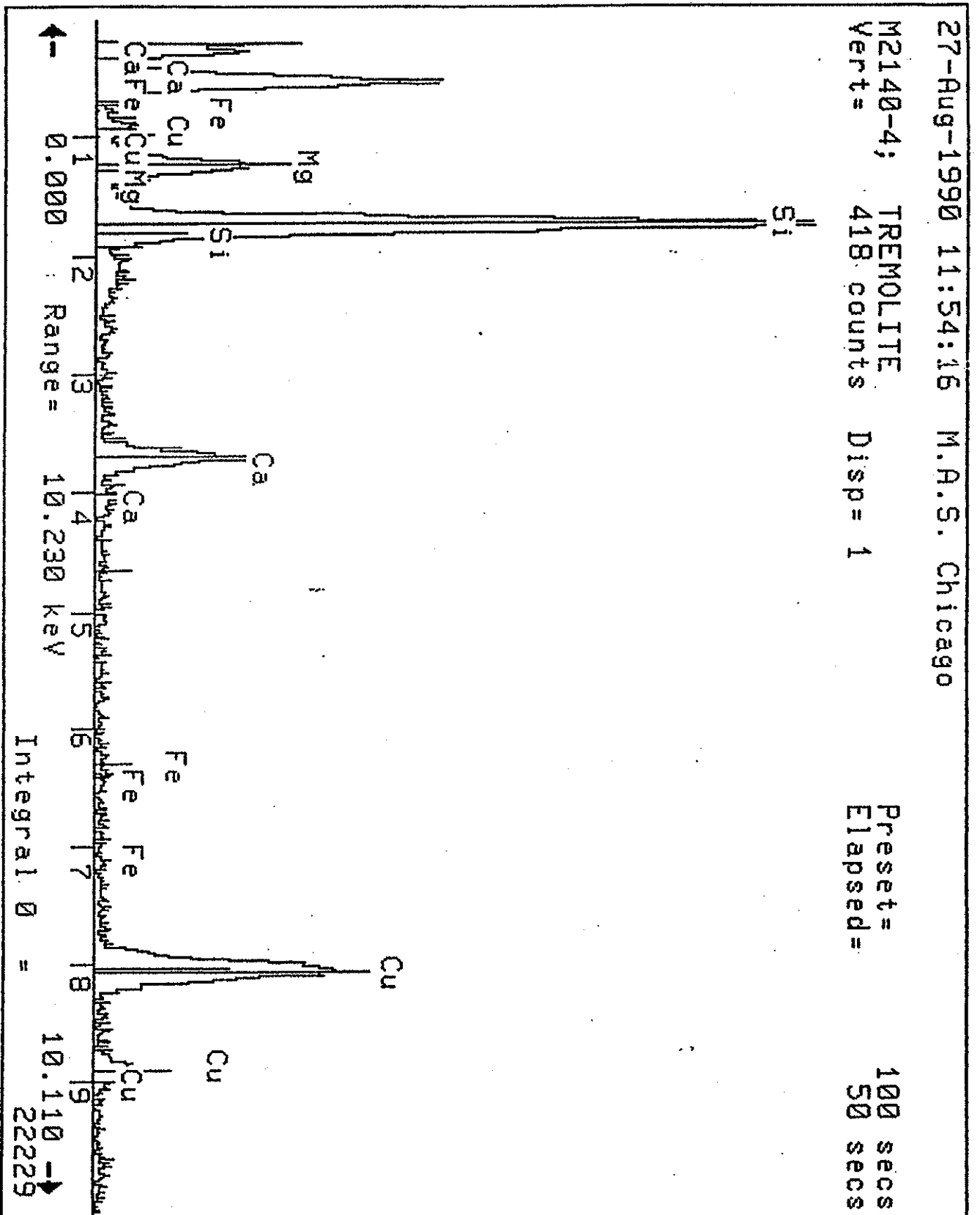
$$\frac{1339}{10} \cdot \frac{0.008011}{2} \cdot \frac{100}{1} \cdot 3 = 2.507 \times 10^6$$

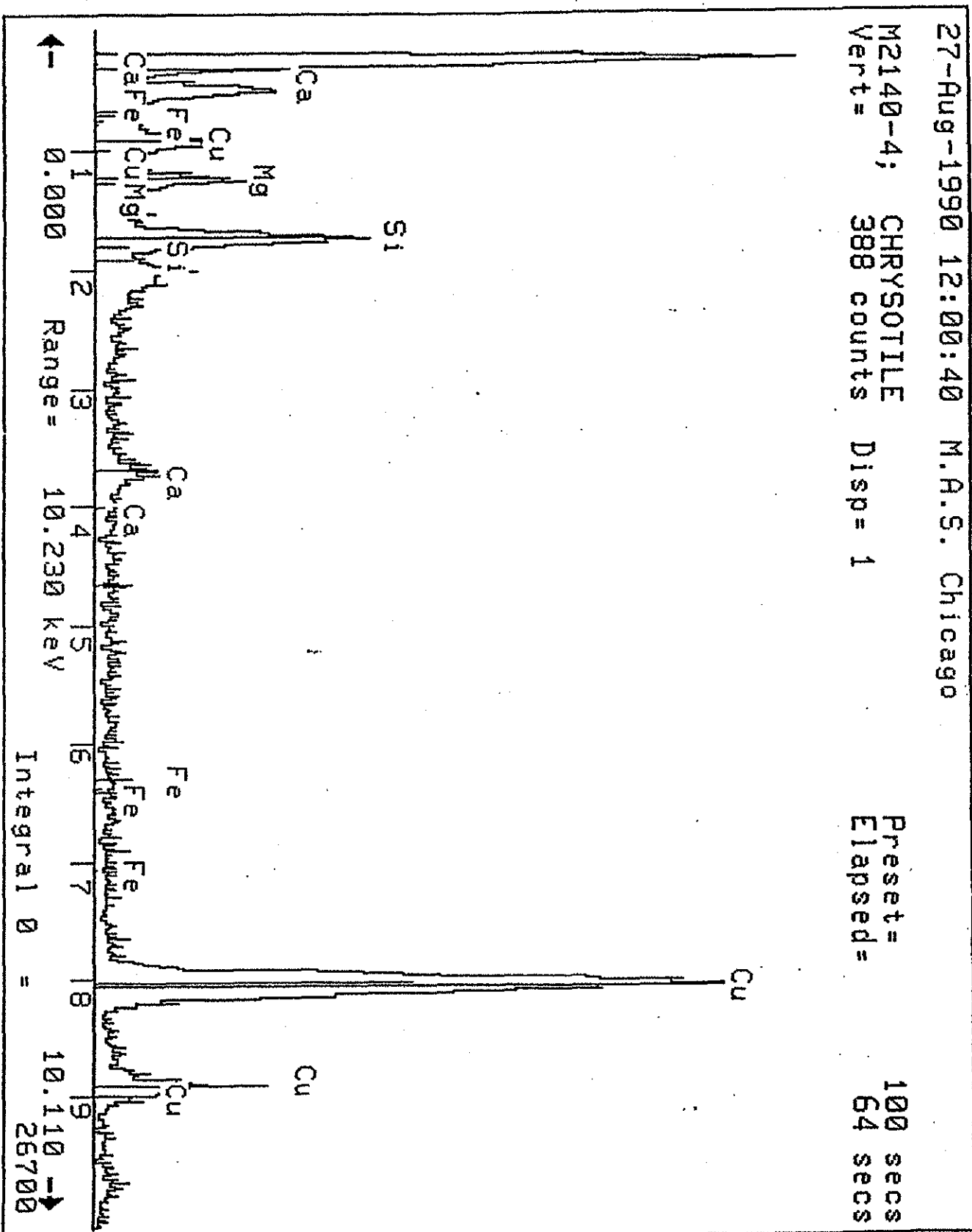
PAGE # 212

MAS JOB NUMBER:

M-21410-4

[illegible]





MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 1.12Client: LAW ASSOC / KECNESOWAccelerating Voltage: 100 KVSample ID: 5Indicated Mag: 20 25KX 15414 20KX
Screen Mag: 15414 20KXMAS Job Number: M 2140-5Microscope Number: 1 2 3 4Date Sample Analyzed: 8-27-90Filter Type: MCE PC, Other =Filter Size: 25mm, 37mm, 47mmNumber of Openings/Grids Counted: 101 2Filter Pore Size (um): 0.22Grid Accepted, 600X: (Yes) No 590Grid Opening: 1) 90 um x 90 umAnalyst: Al Harmon2) 91 um x 90 umDilution Factor: 1: 4Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1339

Number of Grid Openings Examined:

(B) 10

Average Grid Opening Area in sq. mm:

(C) 0.1008145

Volume of Liquid Filtered in ml:

(D) 25

Area Sampled in Sq. Ft.:

(E) 1

Number of Asbestos Structures Counted:

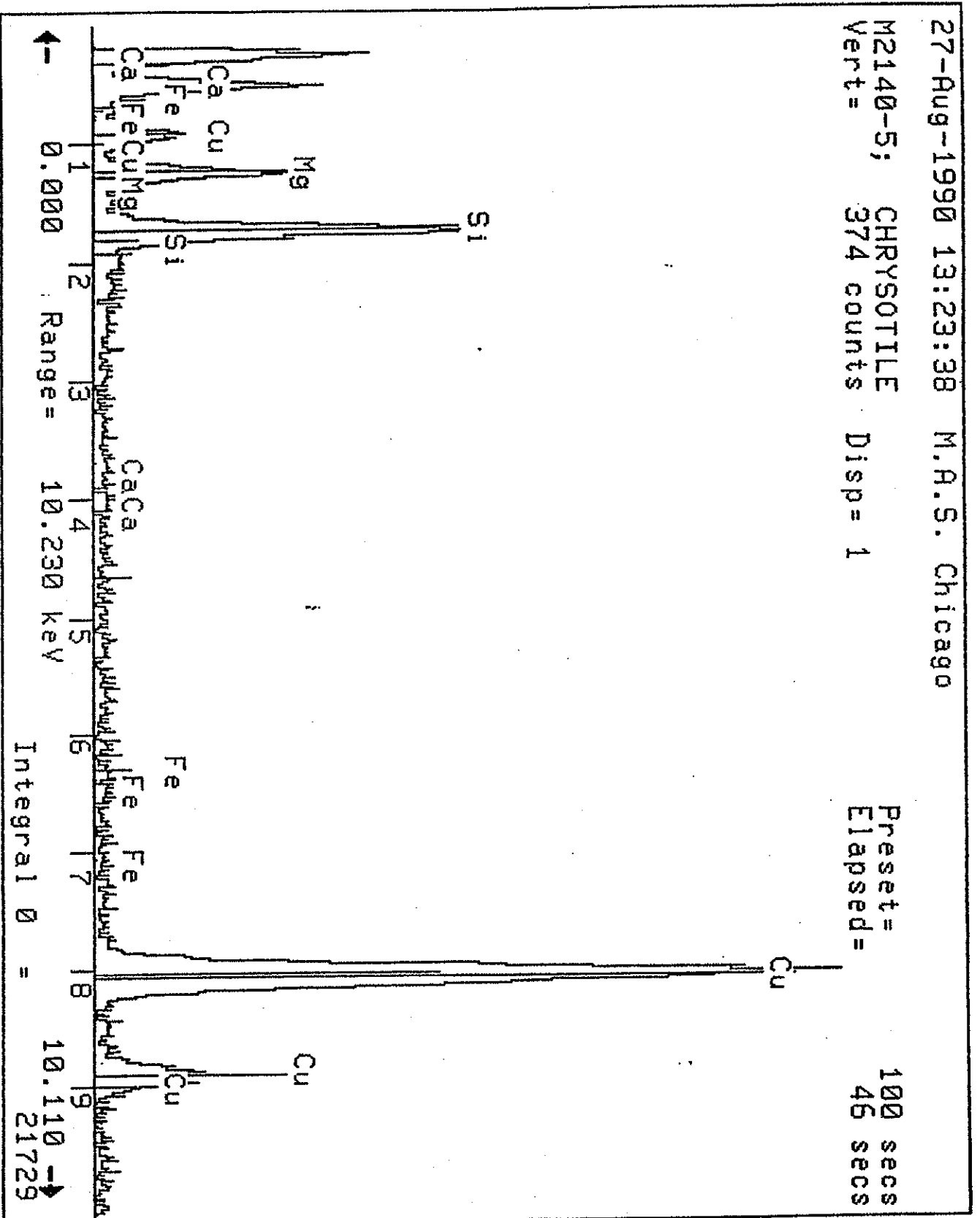
(F) 17STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{100}{E} \cdot F = (\text{asbestos structures per sq. ft.})$$

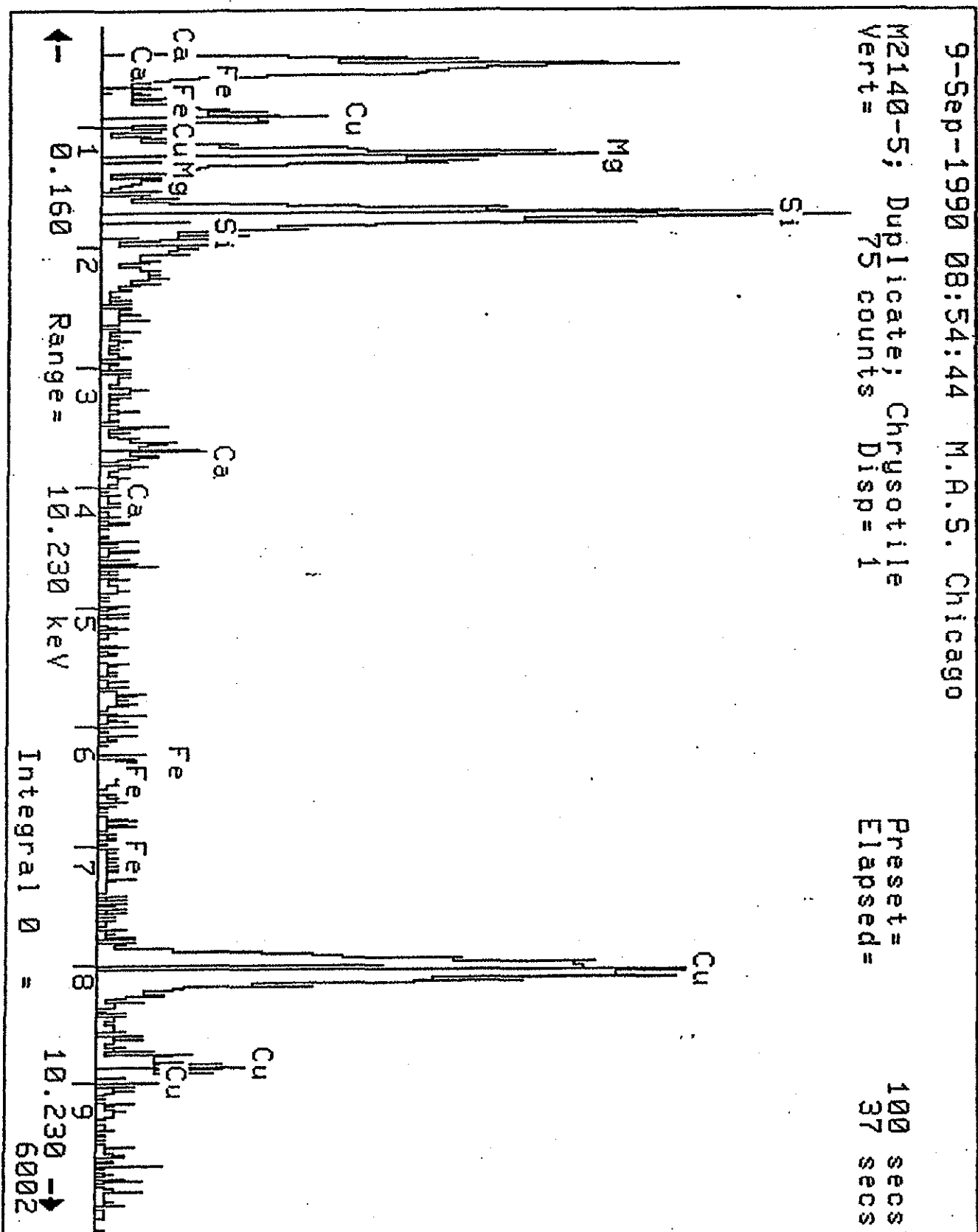
Calculations:

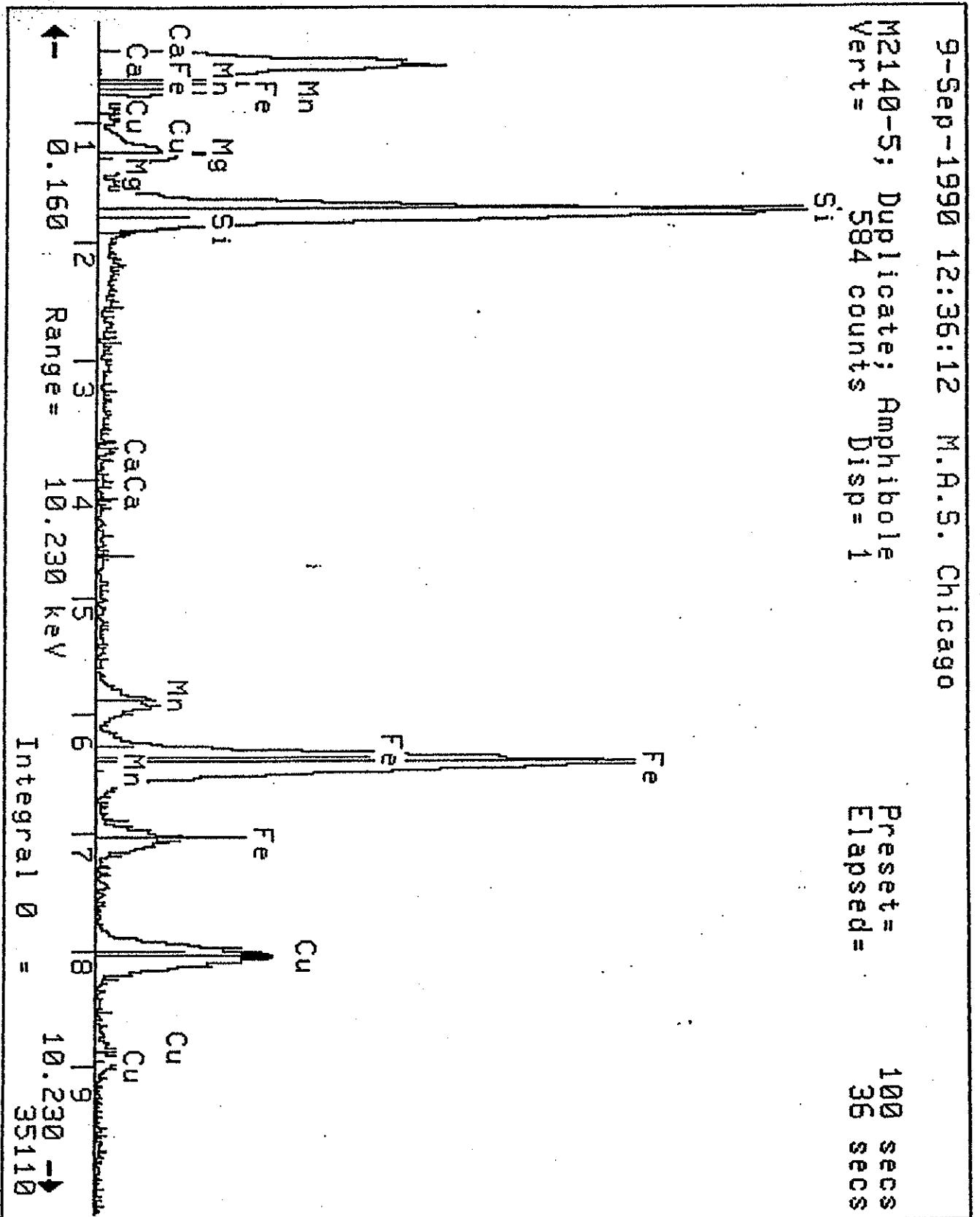
$$\frac{1339}{10} \cdot \frac{0.1008145}{25} \cdot \frac{1}{1} \cdot 17 = 1.178 \times 10^4$$

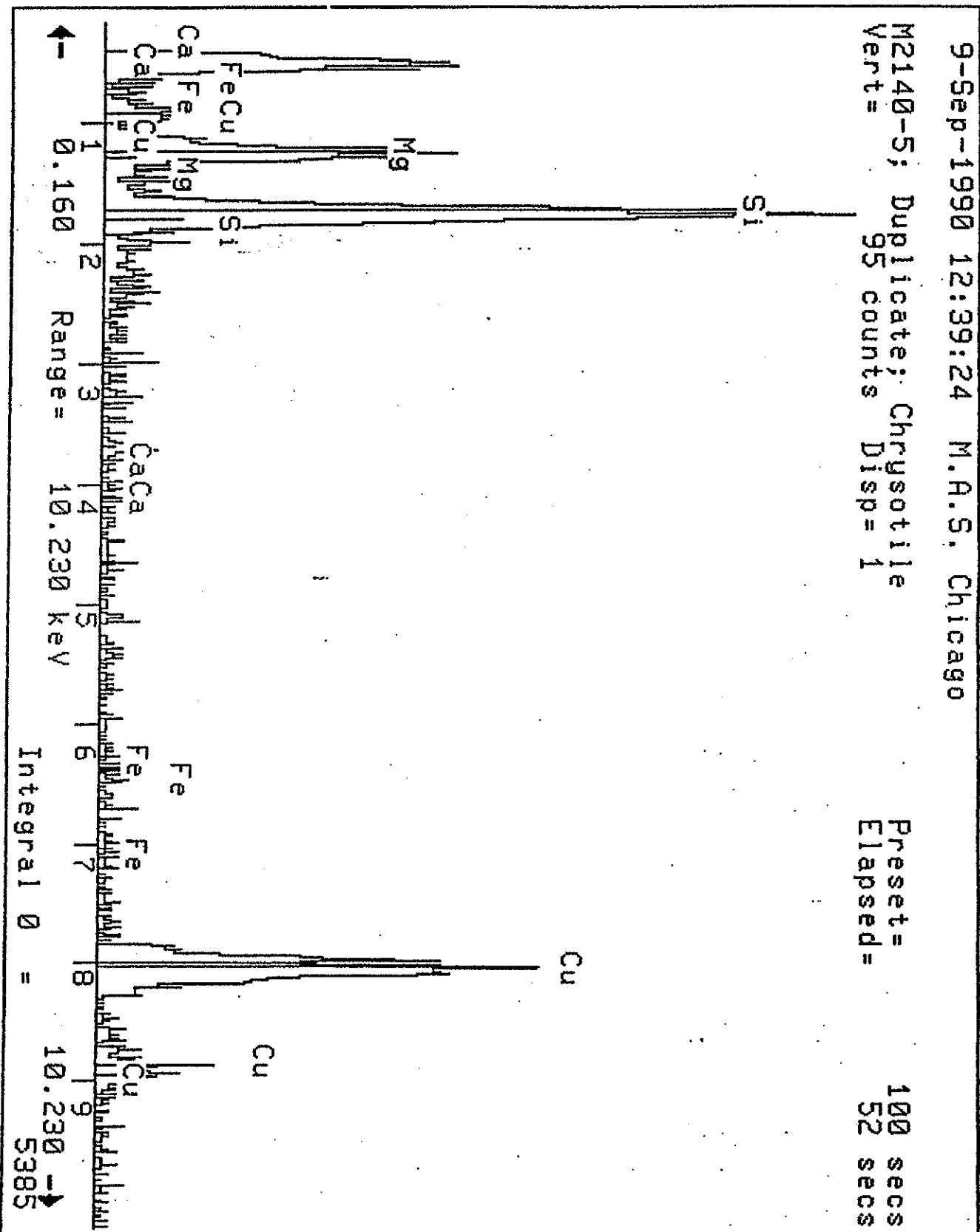
[illegible]



[illegible]







MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 11Client: LAW ASSOC/ KENNEDYAccelerating Voltage: 100 KVSample ID: # 6Indicated Mag: 20 -25KX
Screen Mag: 15414 20KXMAS Job Number: M 2140-6Microscope Number: 1 2 3Date Sample Analyzed: Grid #1 25 - Aug. - 90Filter Type: MCE PC, Other =Number of Openings/Grids Counted: Grid #2 27-406 - 90 10.1 2Filter Size: 25mm, 37mm, 47Filter Pore Size (um): 0.22Grid Accepted, 600X: Yes No 6%Grid Opening: 1) 90.1 um x 89Analyst: W.P. Smith / A. Harmon Grid #22) 92 um x 89Dilution Factor: 1: 500Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1339

Number of Grid Openings Examined:

(B) 10

Average Grid Opening Area in sq. mm:

(C) 0.008130

Volume of Liquid Filtered in ml:

(D) 0.2

Area Sampled in Sq. Ft.:

(E) 0.833

Number of Asbestos Structures Counted:

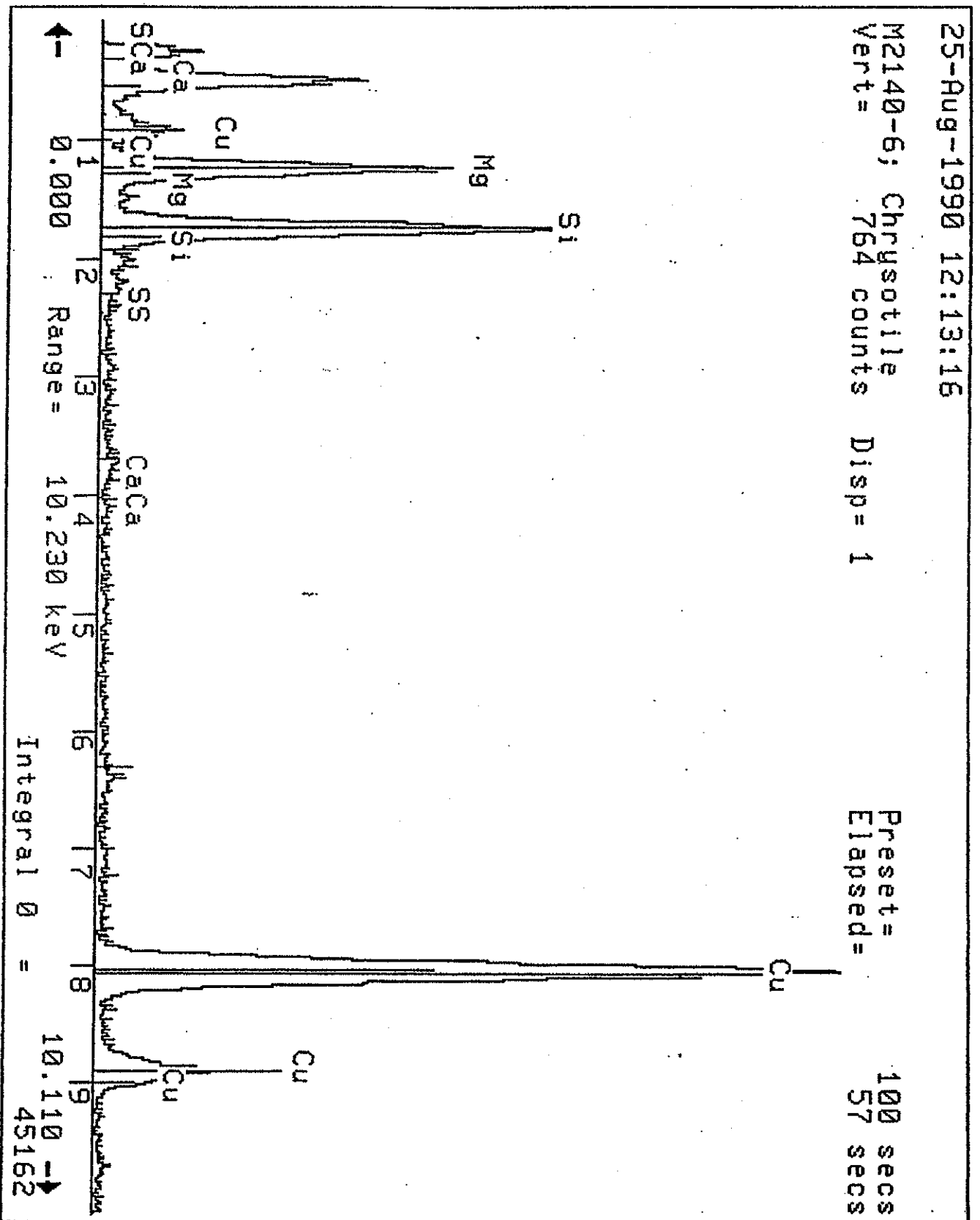
(F) 2.2STRUCTURES PER SQ. FT. FORMULA:

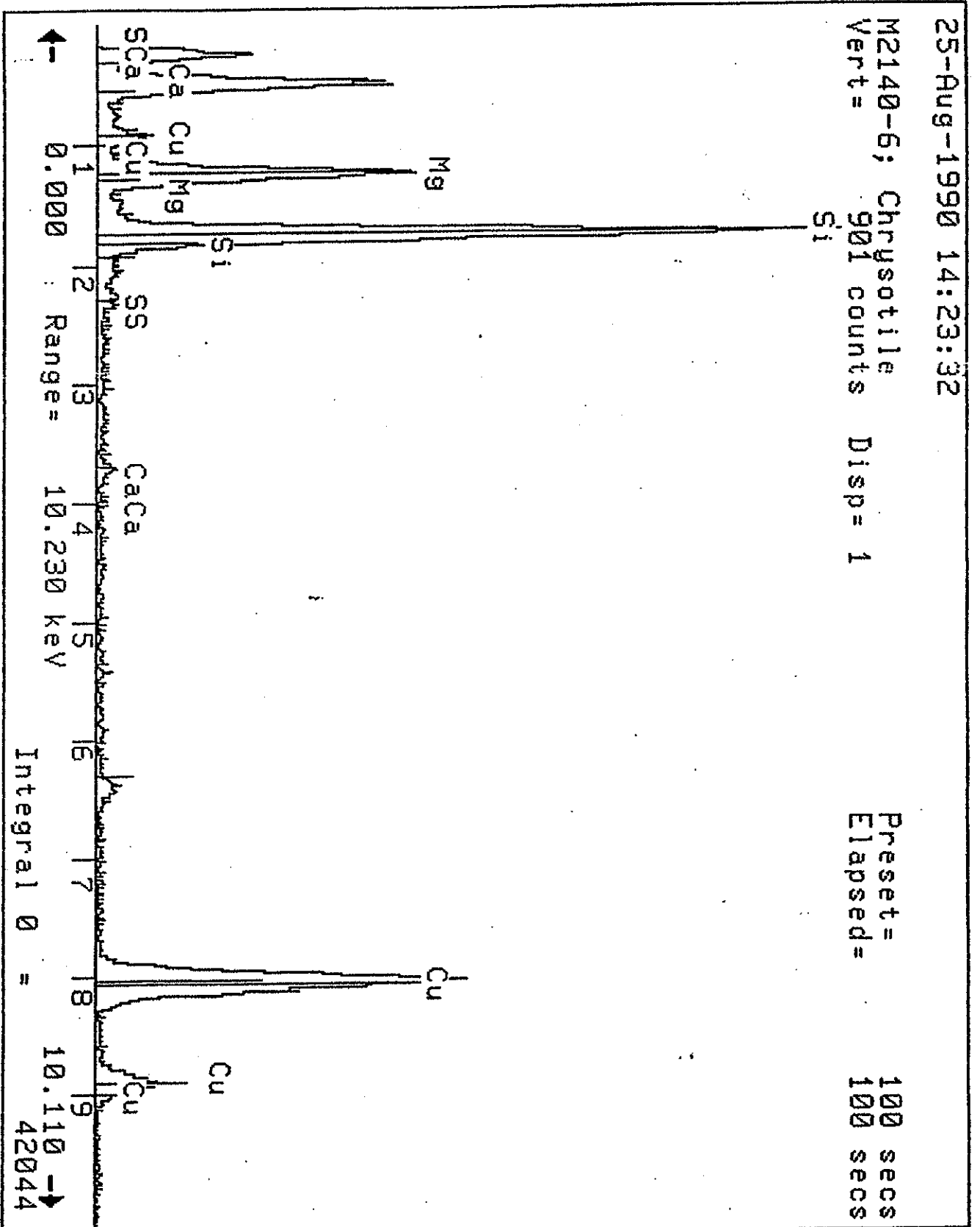
$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{1}{E} \cdot F = (\text{asbestos structures per sq. ft.})$$

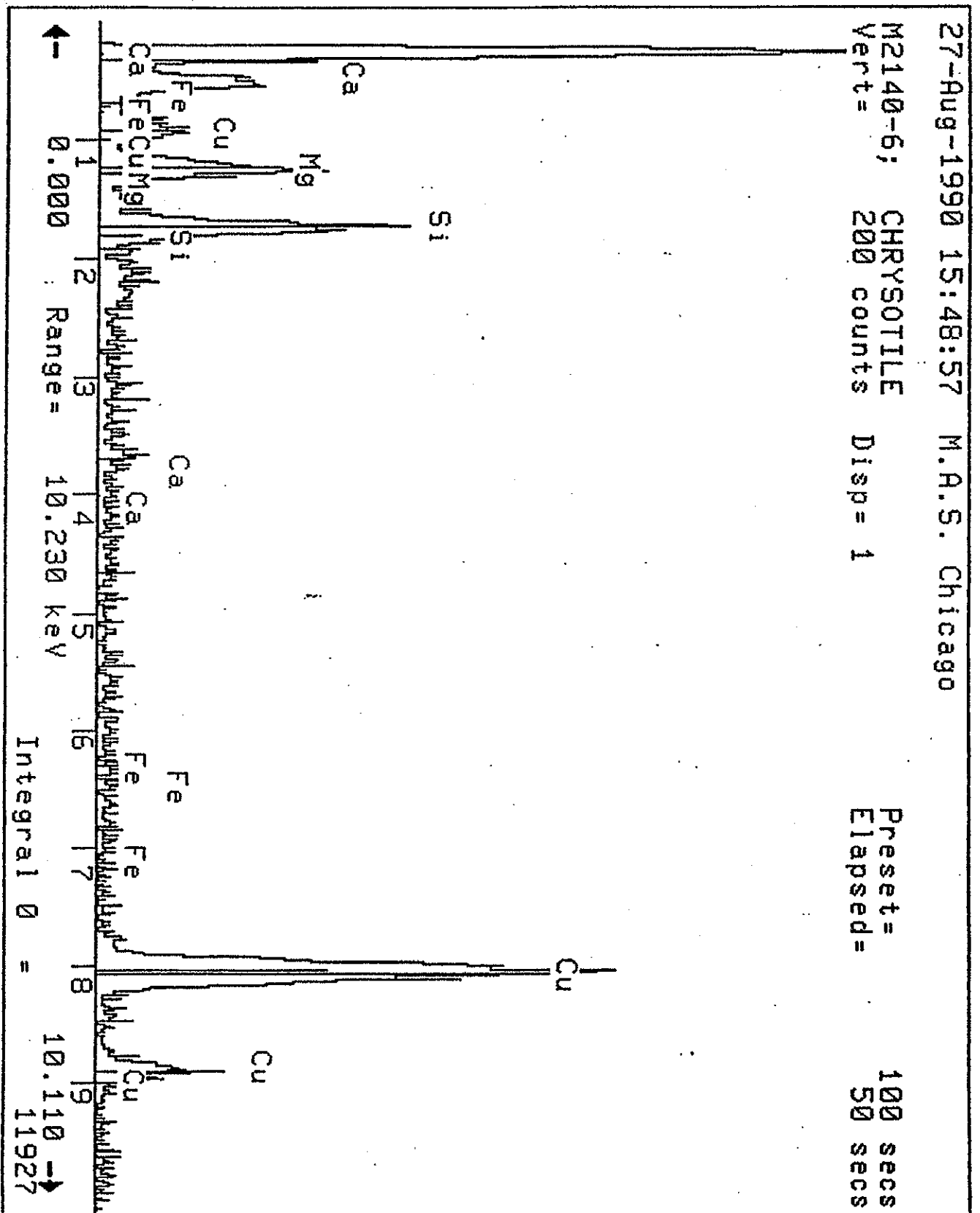
Calculations:

$$\frac{1339}{10} \cdot \frac{0.008130}{0.12} \cdot \frac{1}{0.833} \cdot 2.2 = 2175 \times 10^8$$

[illegible]







MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEET

PAGE # 1.15

Client: LAW ASSOC / KENNEDY Accelerating Voltage: 100 KV

Sample ID: 7 Indicated Mag: 20 25KX
 Screen Mag: 154/4 20KX

MAS Job Number: M 2140-7 Microscope Number: P 2 3 4
 Filter Type: MCE, PC, Other =
 Date Sample Analyzed: 8-28-90 Filter Size: 25mm, 37mm, 47mm

Number of Openings/Grids Counted: 1.11 Filter Pore Size (um): 0.22

Grid Accepted, 600X: Yes No 10% Grid Opening: 1) 88 um x 87 um
 Analyst: Al Harmon 2) um x um

Dilution Factor: 1: 50

Calculating Results For Verbal Issue:

Effective Filter Area: (A) 1339

Number of Grid Openings Examined: (B) 1

Average Grid Opening Area in sq. mm: (C) 0.007656

Volume of Liquid Filtered in ml: (D) 2.0

Area Sampled in Sq. Ft.: (E) 0.667

Number of Asbestos Structures Counted: (F) 91

STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B} \cdot \frac{100}{C} \cdot \frac{1}{D} \cdot F = (\text{asbestos structures per sq. ft.})$$

Calculations:

$$\frac{1339}{1} \cdot \frac{100}{0.007656} \cdot \frac{1}{2.0} \cdot 91 = 1.193 \times 10^9$$

CLIENT:

LAW #580C/KENNESAWPAGE # 215

MAS JOB NUMBER:

M- 2140-7

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
1	1-1	C	F	3.5	0.11	—	—	PD
2		C	F	3.0	0.11	—	—	
3		C	F	1.5	0.11	✓	—	
4		C	C	2.5	1.5	—	—	
5		C	M	4.8	1.0	✓	—	
6		C	M	5.0	3.5	—	—	
7		C	C	3.5	2.8	—	—	
8		C	M	5.5	4.8	✓	—	
9		C	F	4.0	0.11	—	—	
10		C	B	5.5	0.2	—	—	PD
11		C	F	3.5	0.11	—	—	
12		C	F	4.5	0.11	—	—	
13		C	F	2.2	0.11	—	—	
14		C	F	1.5	0.11	—	—	
15		C	F	4.5	0.11	—	—	
16		C	F	3.5	0.11	—	—	
17		C	F	3.8	0.11	—	—	
18		C	F	1.5	0.11	—	—	
19		C	F	5.5	0.11	—	—	
20		C	F	2.8	0.11	—	—	PD
21		C	F	1.8	0.11	—	—	
22		C	F	4.0	0.11	—	—	
23		C	F	1.2	0.11	—	—	
24		C	F	3.5	0.11	—	—	
25		C	F	3.2	0.11	—	—	
26		C	F	3.2	0.11	✓	—	
27		C	F	3.6	0.11	✓	—	
28		C	F	1.0	0.11	—	✓	
29		C	F	1.5	0.11	—	—	
30		C	F	2.5	0.11	—	—	PD

CLIENT: LHW ASSOC / KENNEDYPAGE # 315MAS JOB NUMBER: M- 2140-7

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
31	1 st CONT	C	f	1.0	0.1	—	—	
32		C	f	2.8	0.1	—	—	
33		C	f	4.0	0.1	—	—	
34		C	f	1.5	0.1	—	—	
35		C	f	2.0	0.1	—	—	
36		C	f	2.2	0.1	—	—	
37		C	f	2.2	0.1	—	—	
38		C	f	2.8	0.1	—	—	
39		C	B	2.5	0.2	—	—	
40		C	F	2.2	0.1	—	—	PO
41		C	f	4.5	0.1	✓	—	
42		C	f	5.5	0.1	—	—	
43		C	f	2.8	0.1	—	—	
44		C	f	1.0	0.1	—	—	
45		C	f	3.5	0.1	✓	✓	
46		C	f	2.8	0.1	—	—	
47		C	C	3.5	2.4	✓	✓	
48		C	C	4.5	3.8	—	—	
49		C	f	12.0	0.1	—	—	
50		C	F	2.2	0.1	—	—	PO
51		C	f	2.8	0.1	—	—	
52		C	M	4.0	3.5	—	—	
53		C	f	4.5	0.1	—	—	
54		C	f	2.0	0.1	—	—	
55		C	f	1.2	0.1	—	—	
56		C	f	2.8	0.1	—	—	
57		C	f	2.0	0.1	—	—	
58		C	f	2.5	0.1	—	—	
59		C	f	8.5	0.1	—	—	
60		C	f	6.0	0.1	—	—	PO

CLIENT:

LAW ASSOC / KENNEDY

PAGE #

415

MAS JOB NUMBER:

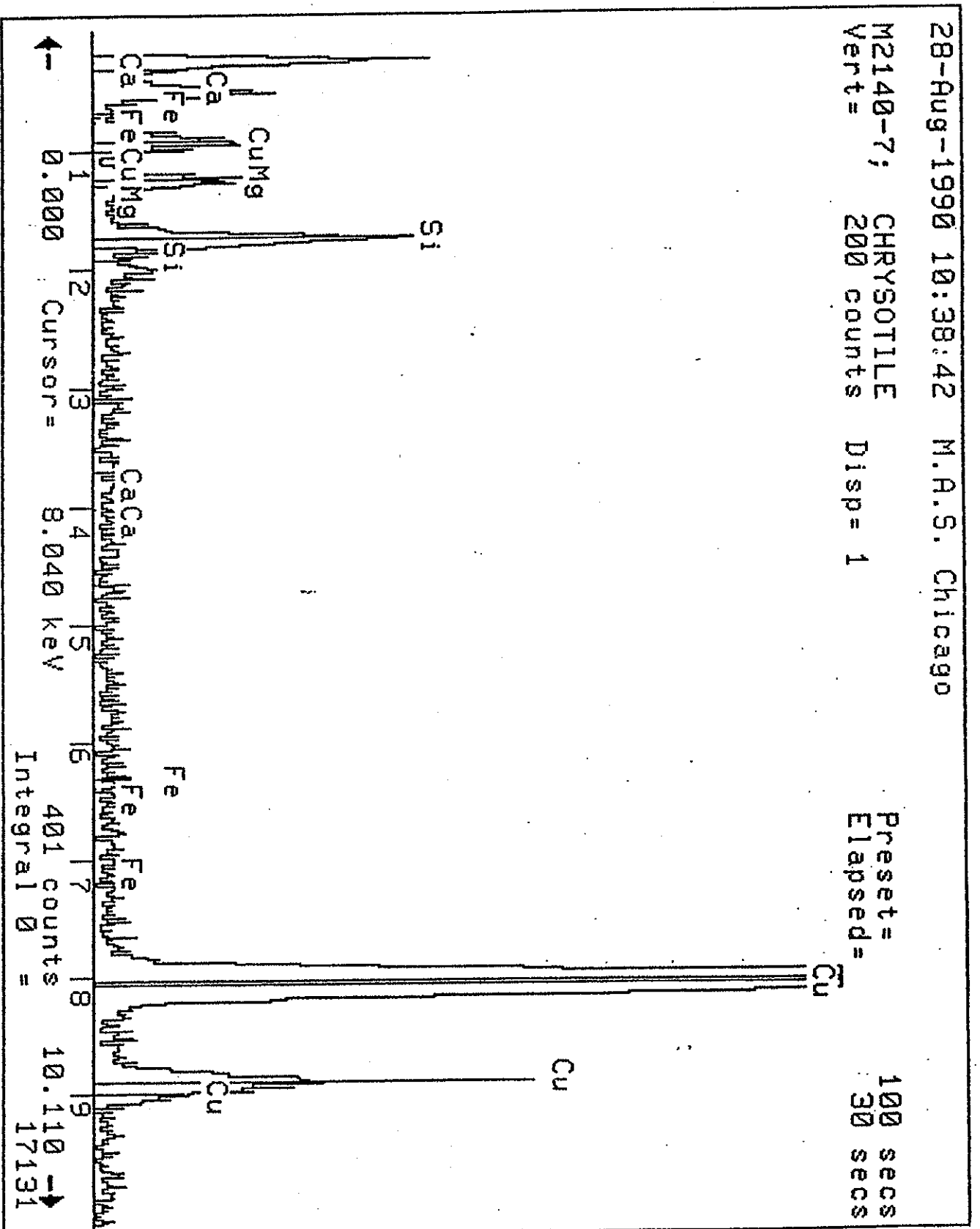
M-2140-7

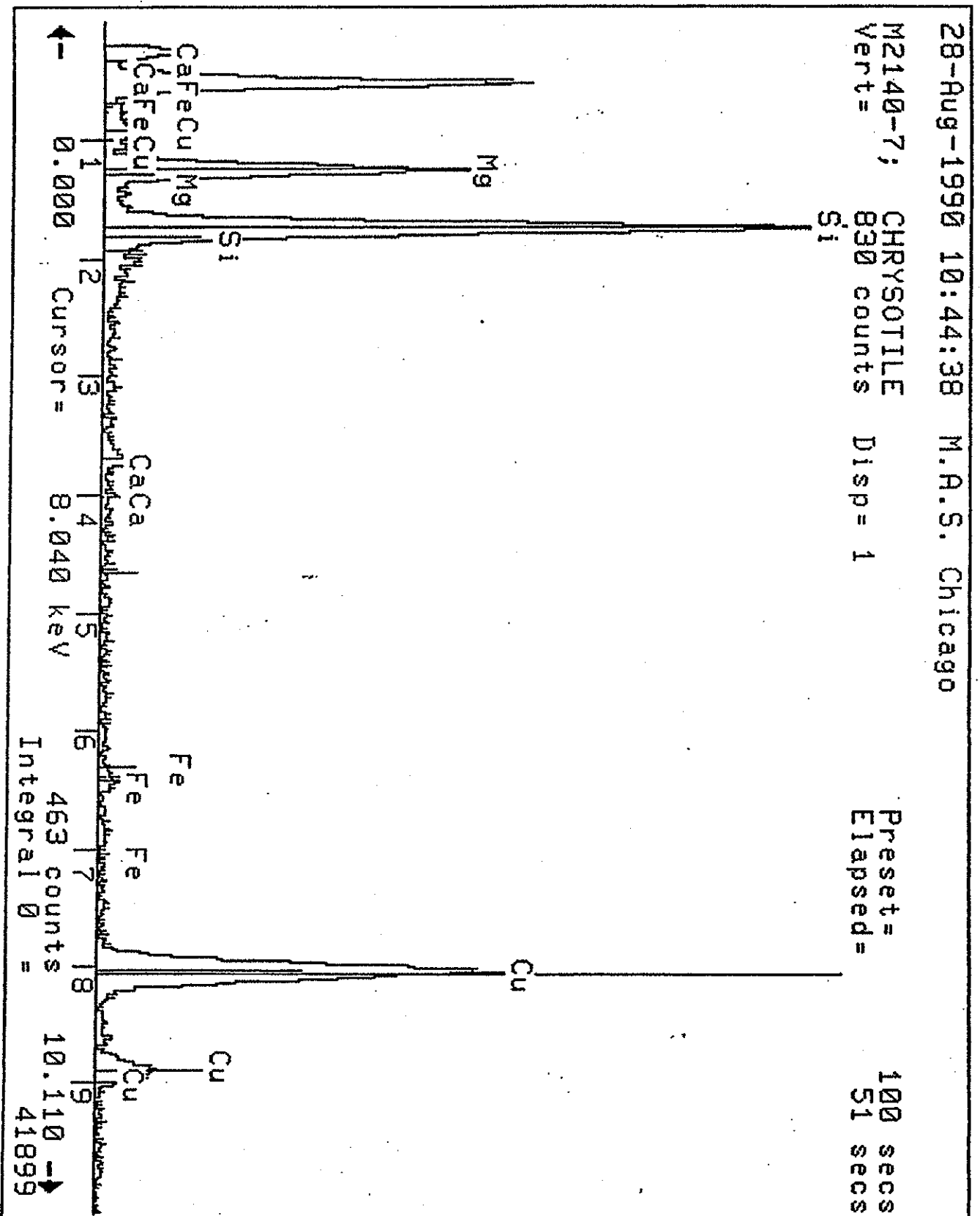
STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
61	1-1 CONT	C	C	11.0	4.0	✓	✓	
62		C	F	4.0	0.1	—	—	
63		C	F	1.8	0.1	—	—	
64		C	C	8.5	3.6	—	—	
65		C	F	1.2	0.1	—	—	
66		C	F	2.0	0.1	—	—	
67		C	F	6.5	0.1	—	—	
68		C	F	1.2	0.1	—	—	
69		C	F	2.0	0.1	—	—	
70		C	F	3.0	0.1	✓	—	PO
71		C	F	3.2	0.1	—	—	
72		C	C	11.0	3.8	—	—	
73		C	F	0.8	0.1	—	—	
74		C	M	2.0	2.2	✓	—	
75		C	F	4.0	0.1	✓	—	
76		C	F	1.4	0.1	—	—	
77		C	F	2.8	0.1	—	—	
78		C	F	1.5	0.1	—	—	
79		C	F	1.2	0.1	—	—	
80		C	B	8.5	0.3	—	—	PO
81		C	M	2.5	0.8	✓	—	
82		C	F	1.5	0.1	—	—	
83		C	F	18.0	0.1	—	—	
84		C	F	4.8	0.1	—	—	
85		C	F	1.5	0.1	✓	—	
86		C	F	4.6	0.1	—	—	
87		C	F	1.2	0.1	✓	—	
88		C	B	1.5	0.2	✓	—	
89		C	F	1.8	0.1	—	—	
90		C	F	4.0	0.1	—	—	PO

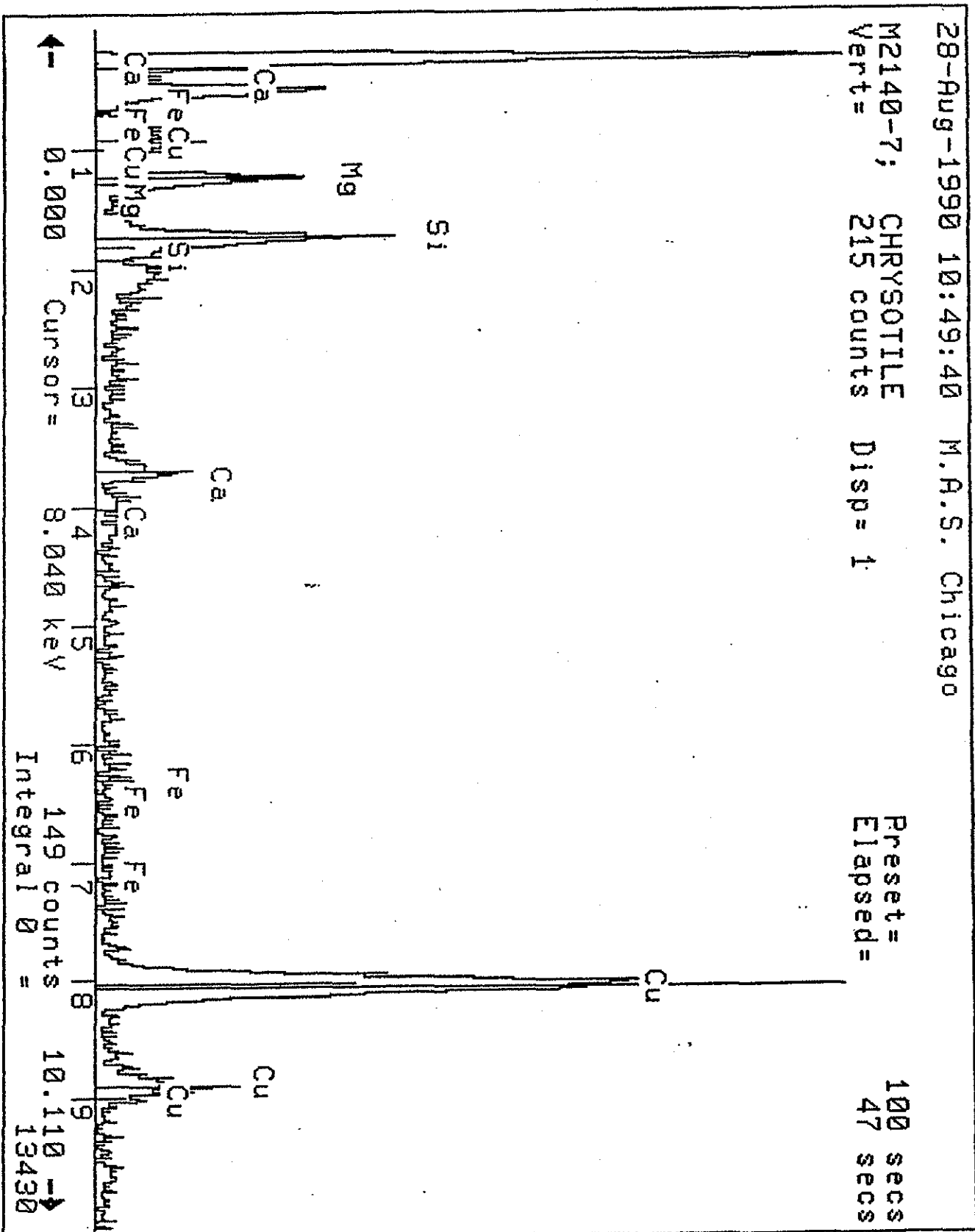
PAGE # 515

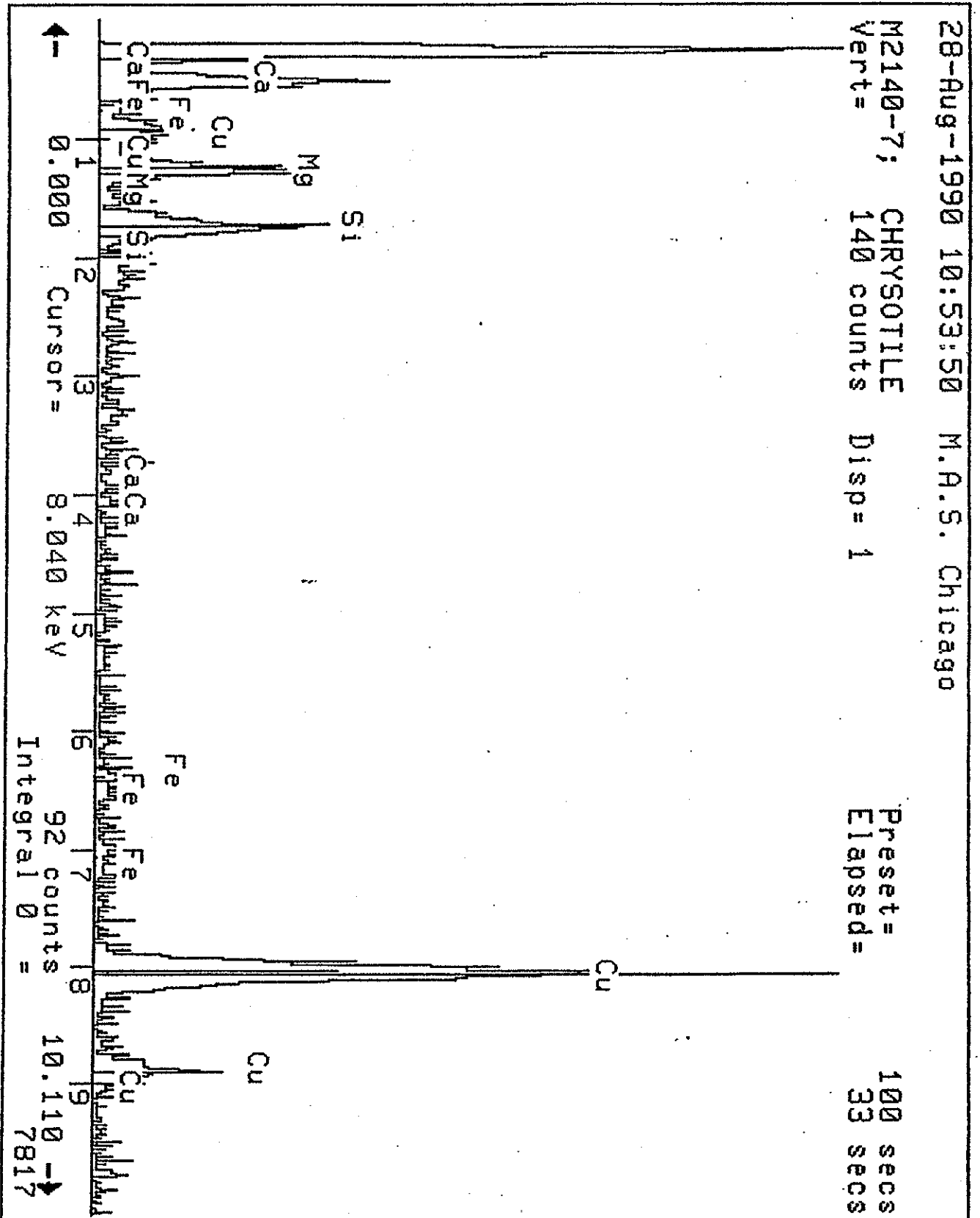
M-2140-7

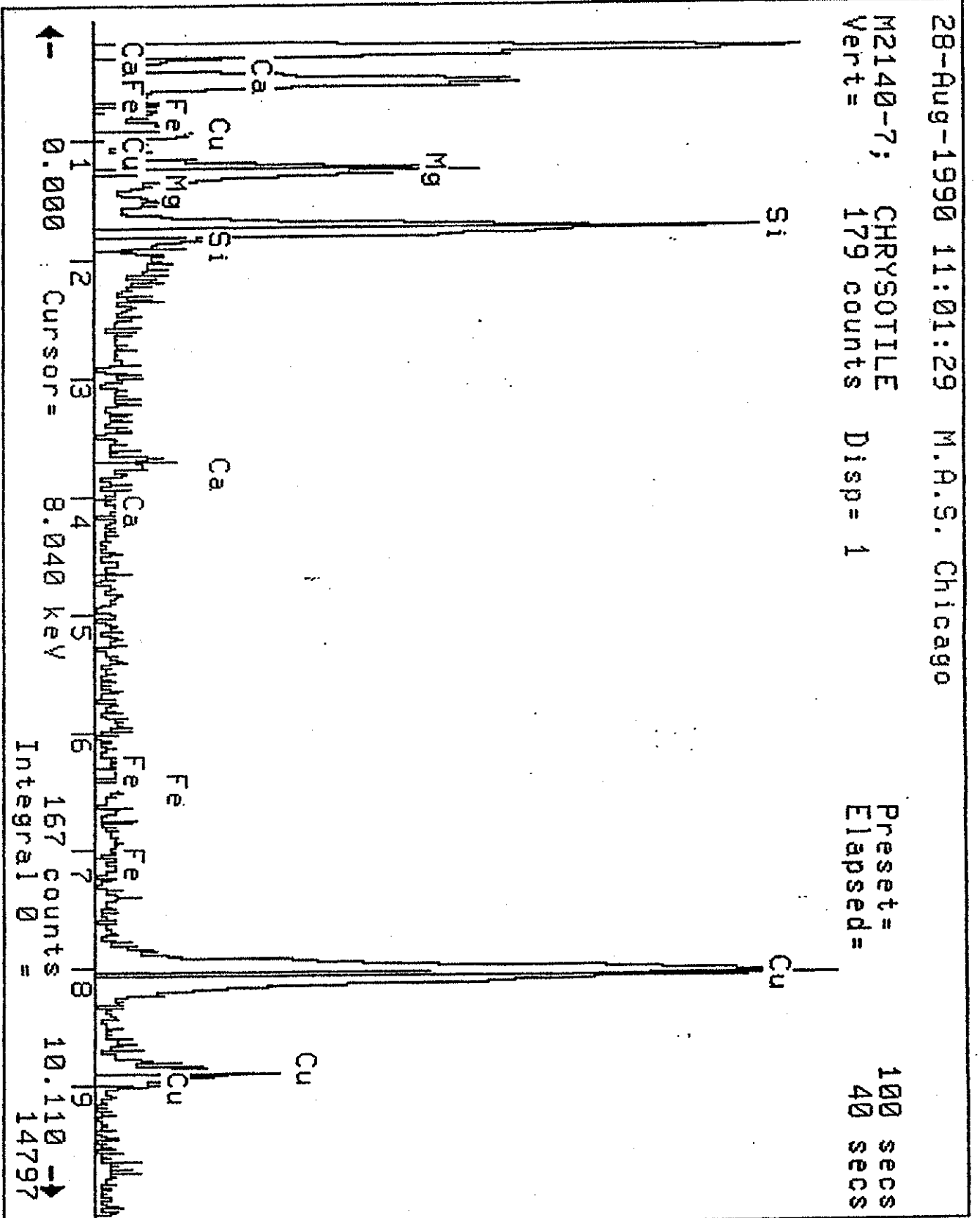
[illegible]

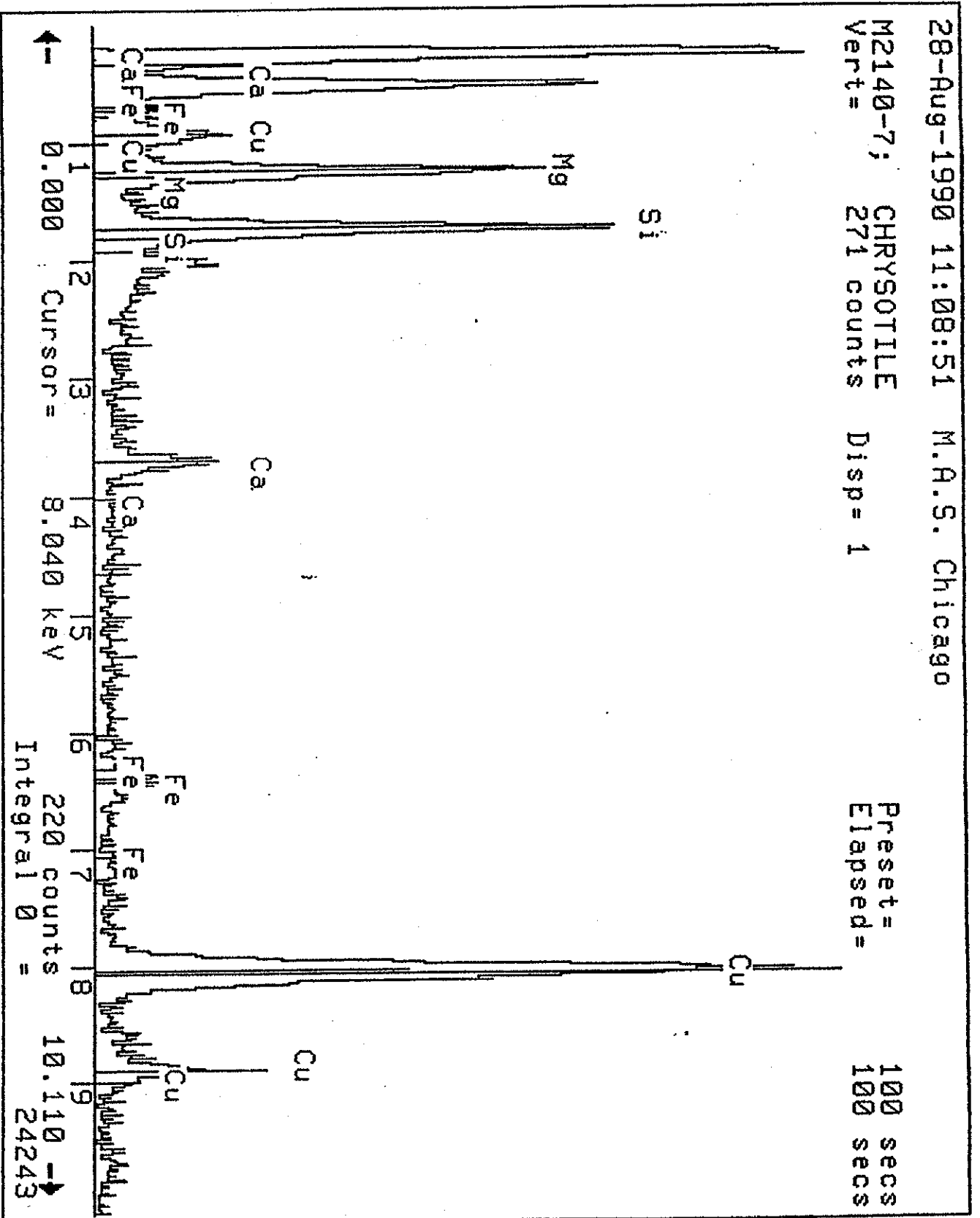


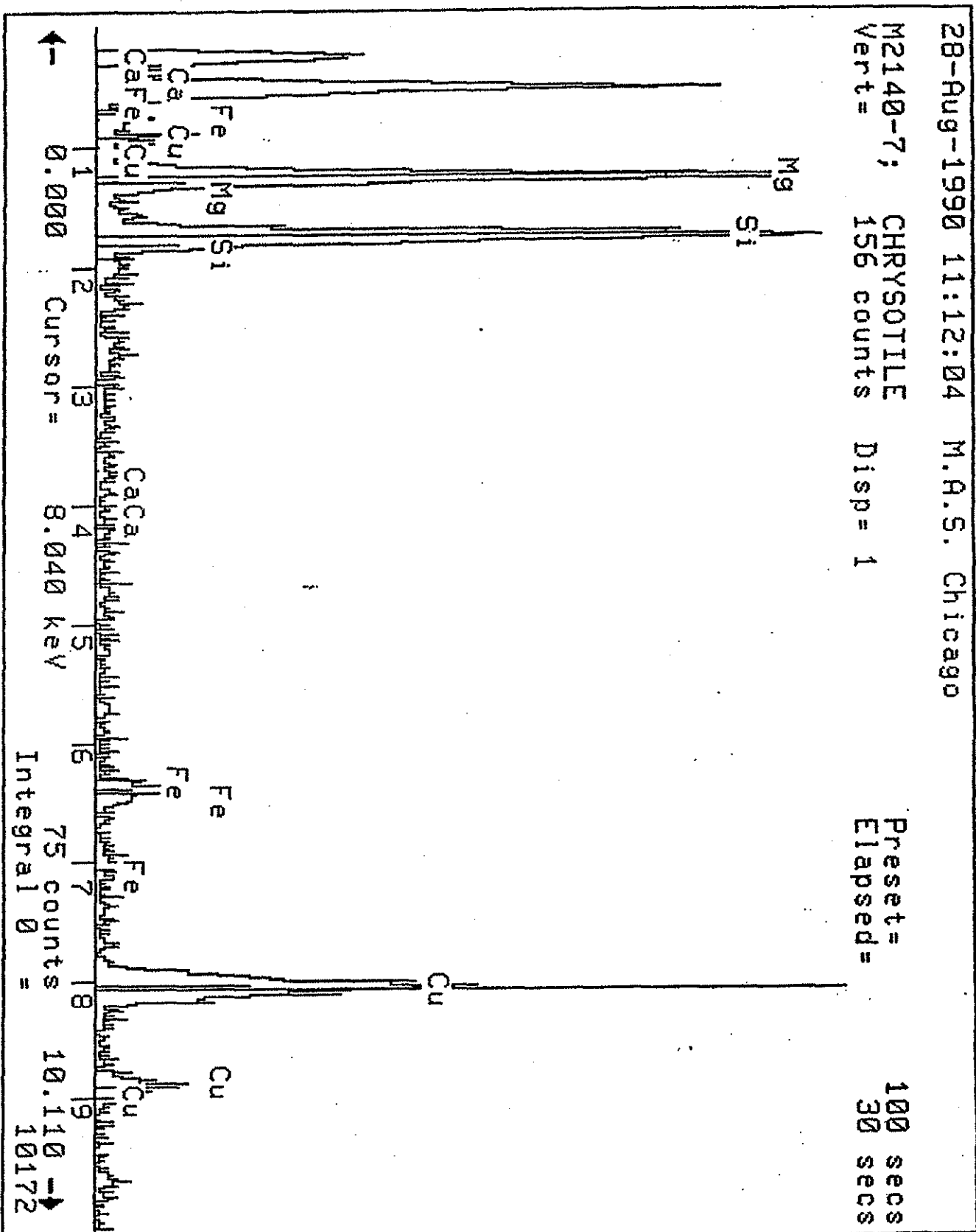


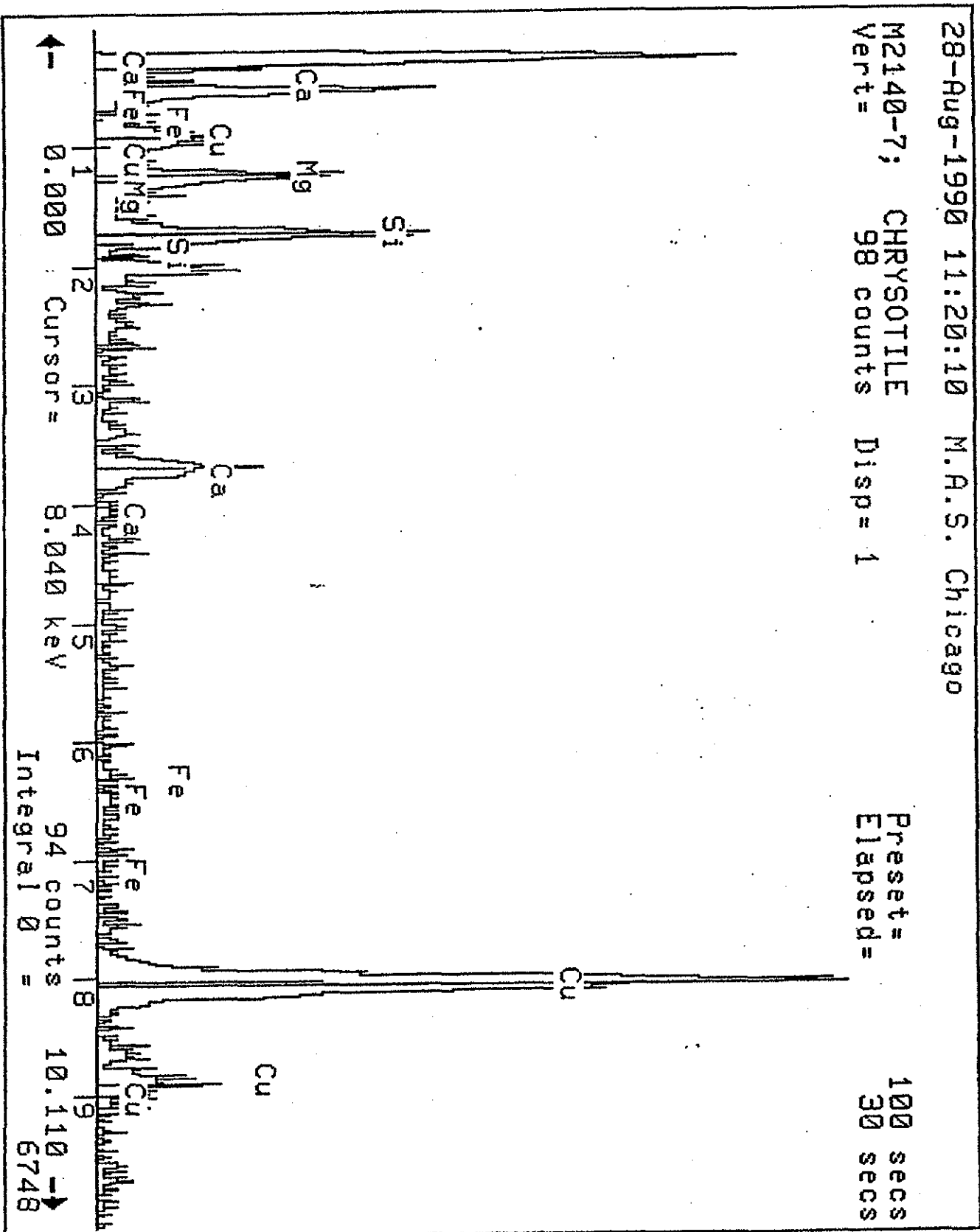


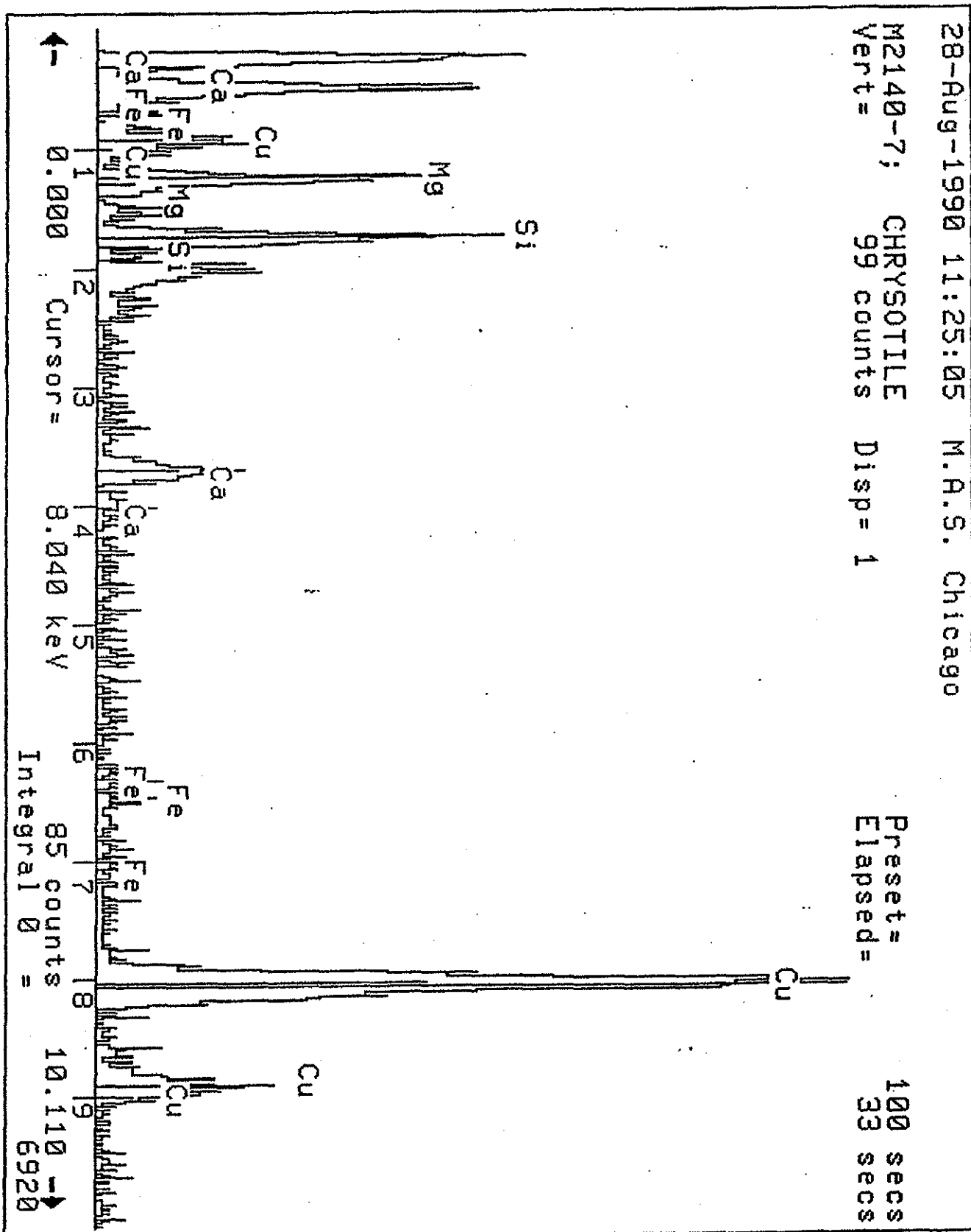


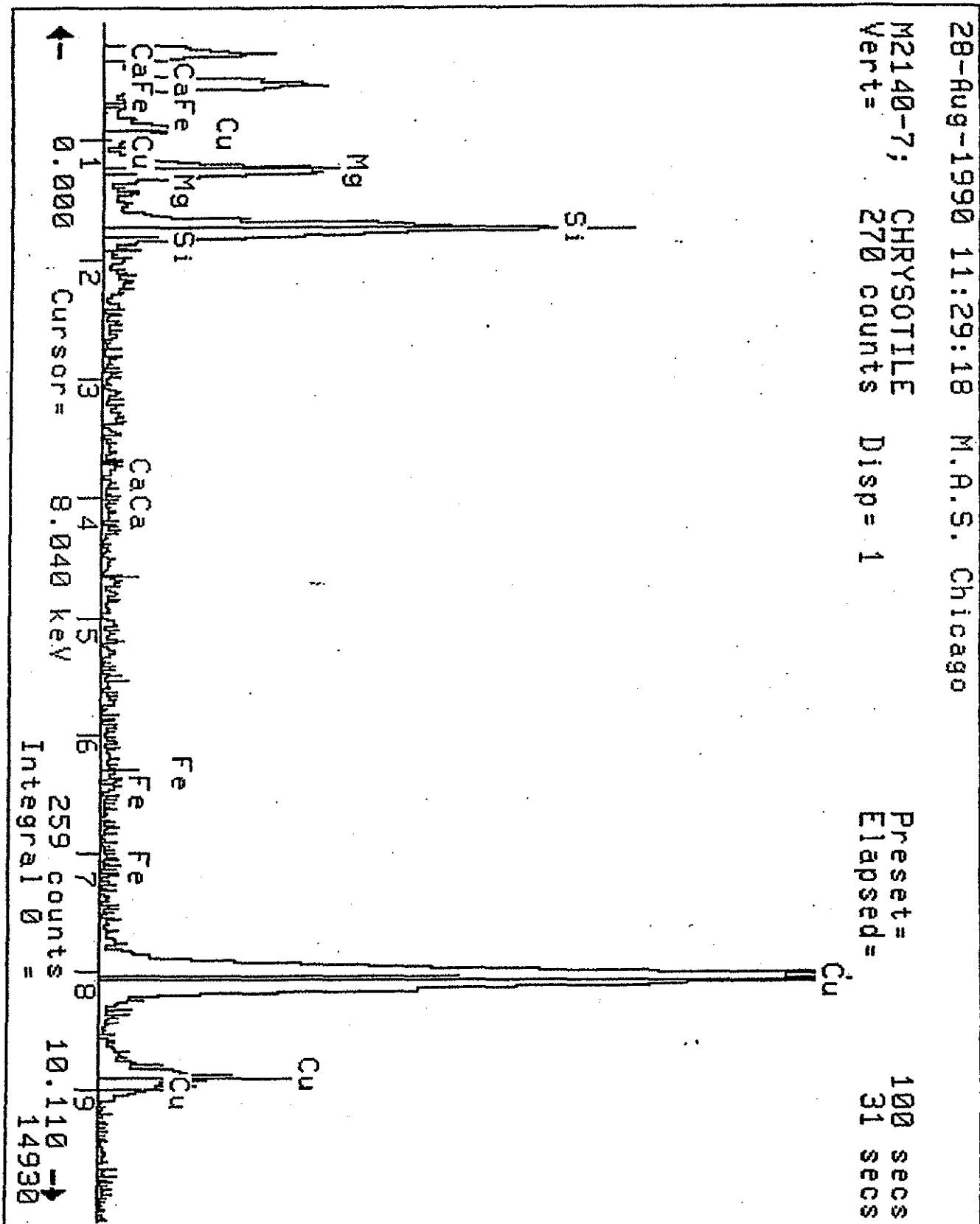












MATERIALS ANALYTICAL SERVICES, INC.
DUST SHEETPAGE # 11Client: LAW ASSOC / KENNEDY SAHAccelerating Voltage: 100 KVSample ID: #8Indicated Mag: 20 25KX
Screen Mag: 15414 20KXMAS Job Number: M 2140-8Microscope Number: 1 2 3Date Sample Analyzed: 25-Aug-90 Grid 1
26-Aug-90 Grid 2Filter Type: MCE PC, Other =
Filter Size: 25mm, 37mm, 47mmNumber of Openings/Grids Counted: 2 1 2Filter Pore Size (um): 0.22Grid Accepted, 600X: Yes No 6%Grid Opening: 1) 99.1 um x 98.1Analyst: W.P. Smith2) 95.3 ^{WDS} 91.2 um x 90.6Dilution Factor: 1: 1000Calculating Results For Verbal Issue:

Effective Filter Area:

(A) 1339

Number of Grid Openings Examined:

(B) 2

Average Grid Opening Area in sq. mm:

(C) 0.009005

Volume of Liquid Filtered in ml:

(D) 0.1

Area Sampled in Sq. Ft.:

(E) 0.666

Number of Asbestos Structures Counted:

(F) 107STRUCTURES PER SQ. FT. FORMULA:

$$\frac{A}{B} \cdot \frac{C}{D} \cdot \frac{100}{E} \cdot F = (\text{asbestos structures per sq. ft.})$$

Calculations:

$$\frac{1339}{2} \cdot \frac{0.009005}{0.11} \cdot \frac{100}{0.666} \cdot 107 = 1.194 \times 10^4$$

CLIENT:

LOW ASSOC. / KENNESAW

PAGE #

215

JOB NUMBER:

M- 2140-8

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
1	1-1	C	F	1.8	0.2	✓	✓	✓
2		C	F	1.0	0.15	✓	✓	P.O.
3		C	F	3.0	0.15	✓	✓	
4		C	F	1.0	0.15	✓	✓	
5		C	F	0.7	0.1	✓	✓	✓
6		C	F	2.5	0.2	✓	✓	
7		C	F	2.7	0.2	✓	✓	
8		C	F	2.0	0.2	✓	✓	
9		C	F	0.9	0.15	✓	✓	✓
10		C	F	2.5	0.2	✓	✓	
11		C	M	7	0.3	✓	✓	P.O.
12		C	M	8	0.3	✓	✓	
13		C	F	2.0	0.2	✓	✓	
14		C	F	3.5	0.2	✓	✓	
15		C	F	2.0	0.15	✓	✓	
16		C	F	1.9	0.15	✓	✓	
17		C	F	4.0	0.2	✓	✓	
18		C	F	3.5	0.2	✓	✓	
19		C	F	2	0.2	✓	✓	
20		C	F	8	0.2	✓	✓	P.O.
21		C	C	2	0.7	✓	✓	
22		C	F	7	0.2	✓	✓	
23		C	M	3.5	1.0	✓	✓	
24		C	F	2	0.15	✓	✓	
25		C	F	1.5	0.2	✓	✓	
26		C	F	10	0.2	✓	✓	
27		C	F	1	0.15	✓	✓	✓
28		C	F	7	0.2	✓	✓	
29		C	F	2.5	0.2	✓	✓	
30		C	F	2.2	0.2	✓	✓	P.O.

CLIENT:

LZW ASSOC. / KENNEDYPAGE # 315

JOB NUMBER:

M- 2140-8

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
31	1-1	C	F	3.5	0.15	✓	✓	✓
32	CONT.	C	F	3.5	0.2	✓	✓	
33		C	F	2.2	0.2	✓	✓	
34		C	F	6	0.15	✓	✓	
35		C	F	5	0.2	✓	✓	
36		C	C	2	1	✓	✓	
37		C	F	2	0.15	✓	✓	
38		C	F	10	0.2	✓	✓	P.O.
39		C	F	3.5	0.2	✓	✓	
40		C	F	3	0.15	✓	✓	
41		C	F	3.6	0.3	✓	✓	
42	2-1	C	F	4	0.2	✓	✓	
43		C	F	10	0.5	✓	✓	
44		C	F	3.5	0.1	✓	✓	
45		C	F	1.9	0.15	✓	✓	
46		C	F	1.1	0.2	✓	✓	
47		C	F	1.1	0.15	✓	✓	✓
48		C	F	2.2	0.2	✓	✓	P.O.
49		C	F	4	0.2	✓	✓	
50		C	C	4	0.5	✓	✓	
51		C	C	3	0.6	✓	✓	
52		C	F	2	0.2	✓	✓	
53		C	F	3	0.3	✓	✓	
54		C	M	2	0.9	✓	✓	
55		C	F	2	0.3	✓	✓	
56		C	F	2	0.15	✓	✓	
57		C	M	5	0.2	✓	✓	!
58		C	F	9	0.3	✓	✓	P.O.
59		C	M	2.5	0.15	✓	✓	
60		C	F	1.0	0.15	✓	✓	✓

CLIENT:

Law Assoc. / KENNESAW

PAGE #

415

JOB NUMBER:

M- 2140-B

STR. #	GRID # SQUARE #	TYPE C, A	STRUCTURE F, B, C, M, N	LENGTH MICRONS	WIDTH MICRONS	CONFIRMATION		
						MORPH.	SAED.	EDS.
61	2-1	C	F	1.7	0.2	✓	✓	
62	CONT.	C	M	0.9	0.1	✓	✓	✓
63		C	F	0.9	0.1	✓	✓	✓
64		C	F	1.8	0.15	✓	✓	
65		C	F	0.9	0.1	✓	✓	
66		C	M	1	0.15	✓	✓	✓
67		C	B	3	0.3	✓	✓	
68		C	M	4	0.8	✓	✓	P.O.
69		C	F	1	0.15	✓	✓	
70		C	F	30	0.3	✓	✓	
71		C	F	24	0.3	✓	✓	
72		C	F	2	0.15	✓	✓	
73		C	F	3	0.2	✓	✓	
74		C	F	0.9	0.15	✓	✓	
75		C	F	3	0.15	✓	✓	
76		C	F	1.8	0.2	✓	✓	
77		C	F	18	0.2	✓	✓	
78		C	F	8	0.2	✓	✓	P.O.
79		C	F	1.7	0.2	✓	✓	
80		C	F	5	0.2	✓	✓	
81		C	M	2	0.2	✓	✓	
82		C	M	1	0.15	✓	✓	
83		C	F	1.9	0.1	✓	✓	
84		C	F	1	0.1	✓	✓	✓
85		C	F	2.5	0.2	✓	✓	
86		C	F	3	0.2	✓	✓	
87		C	F	3	0.3	✓	✓	
88		C	F	2	0.2	✓	✓	
89		C	F	2.3	0.15	✓	✓	
90		C	F	6	0.3	✓	✓	P.O.

PAGE # 515

M- 2140-8

[illegible]

25-Aug-1990 15:44:25 M.A.S. Chicago

M2140-8; Chrysotile
Yert= 370 count

Disp = 1

Prasanna
Prasanna
Prasanna
Prasanna
Prasanna

100	secs
40	secs

